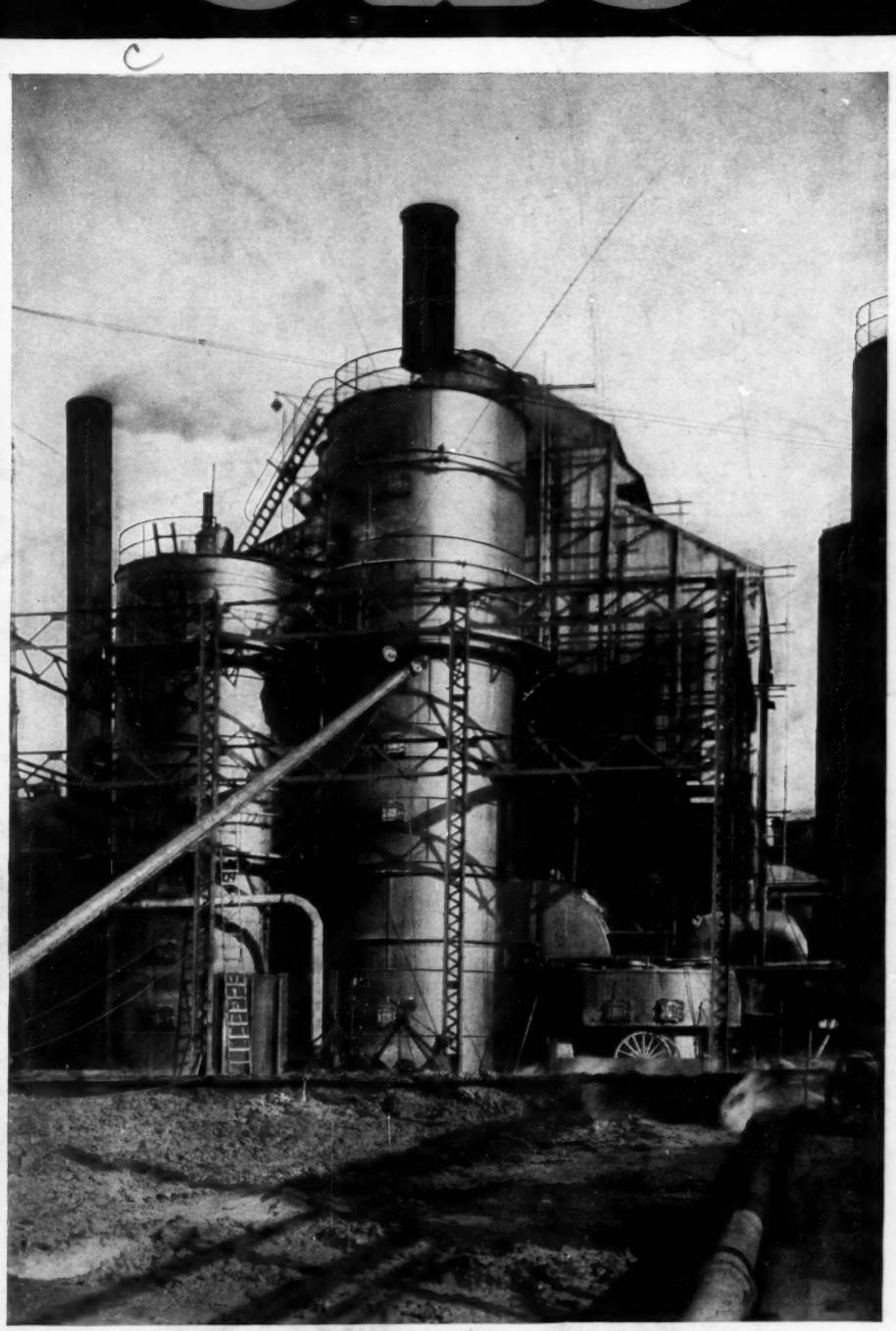
WESTERN GAS

May
1925



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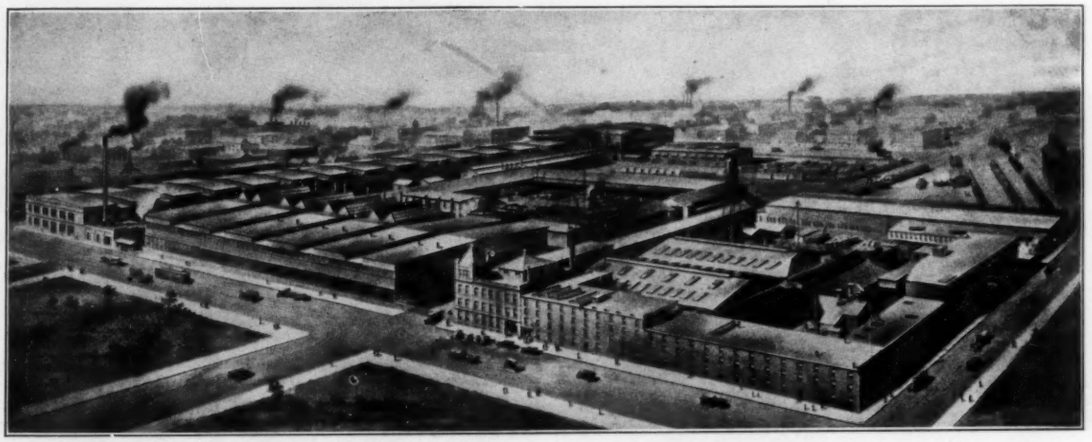

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WESTERN GAS

A Western Journal of the Gas, Gas Appliance and Natural Gasoline Industries

Contents for May

Pacific Gas and Electric Company Installation ..... Cover
—Courtesy Western Pipe and Steel Company

The Scope of Our Western Industry..... 11
By Clifford Johnstone, Executive Secretary Pacific Coast Gas Association

Growing in Advance of the Growing West.... 12
By George H. Finley

Record Time Being Made on Ventura Line.... 14
By Clyde H. Potter, Southern Counties Gas Company

Description of the Waterless Gas Holder..... 15
By A. S. Miller, Vice President Bartlett Hayward Company

The California Natural Gasoline Outlook.... 17
By K. L. Reynolds, Assistant General Manager, Pacific Gasoline Company

Editorial 18

Charcoal Process Introduced in Western Fields 19
By R. W. Skoog and R. C. Alden

Are We Selling Stoves or Buying Junk?..... 22
By H. Elliott Taylor

World's Largest Gas-Fired Heating Plant.... 23
By C. W. Grow, Manager New Business Department, Southern California Gas Company

Cooking School Proves A-1 Sales Device..... 24
By Herbert Elnif

Gas Appliance Society Is Unique Sales Organization 26
By G. P. Egleston, President Gas Appliance Society of California

"Sunburst" Creates Strong Display..... 28
By Paul Lupo, Barker Bros., Inc., Los Angeles

New Garb for Service Employees..... 30

Hold Convention for Natural Gasoline Manufacturers 30

This Month's Patents Pertaining to the Industry 33

Advertisers Index..... 40

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Volume 1 **May, 1925** **Number 1**

WESTERN GAS is published monthly at 626 South Spring St., Los Angeles, California, by Jay E. Jenkins. Subscription price (in advance) 20 cents the copy; $2.00 per year; 3 years $5.00; $3.00 per year foreign. Application for entry as second-class matter is pending.

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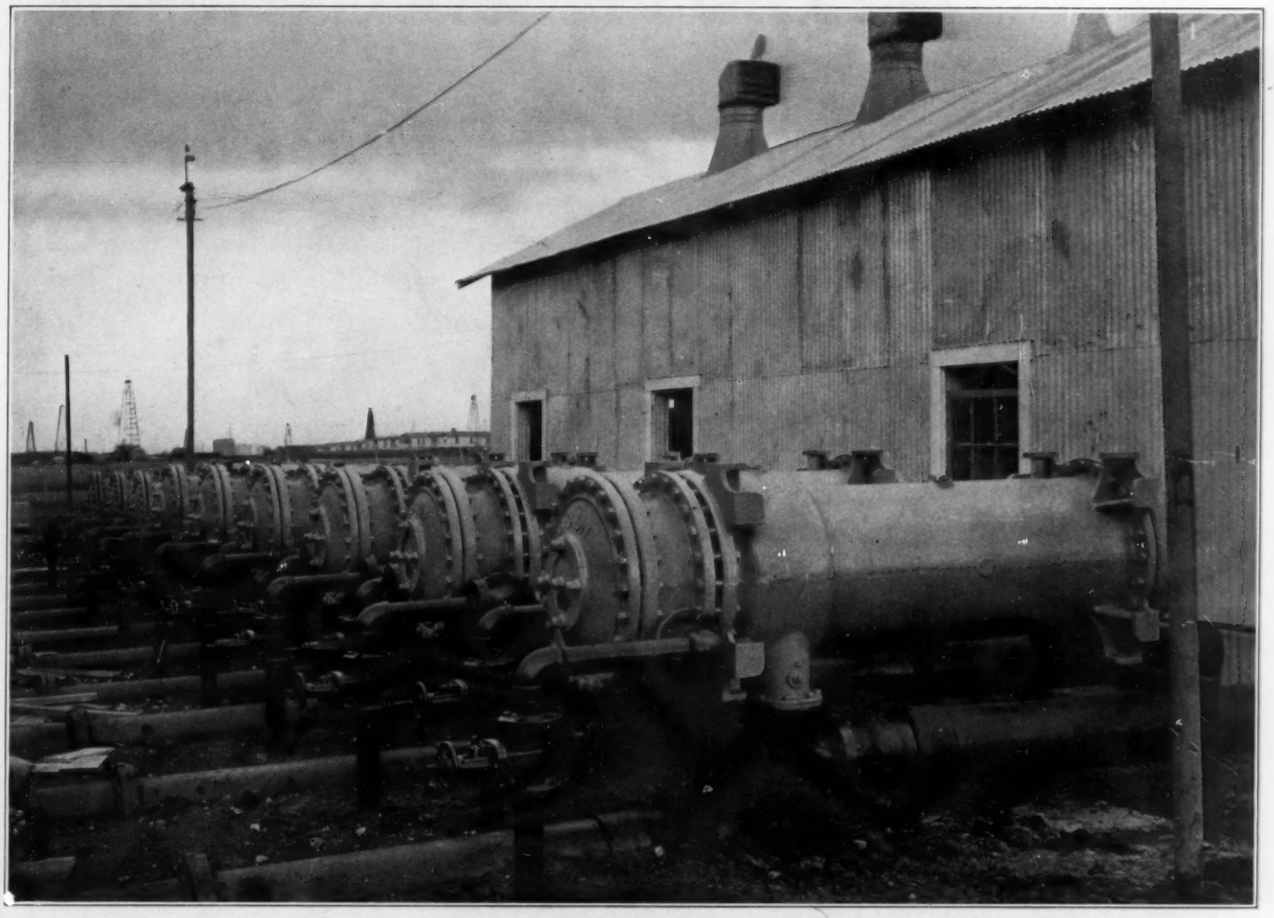

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The gas output for the first year amounted to 136 million cubic feet. Last year the company's total gas sales increased to 11½ billion cubic feet.

This story of our company is very similar to the story of the West. Knowing the West and its vast possibilities and knowing the men of the West who are making gas industry history here, we believe that you have chosen a fertile field for your publication.

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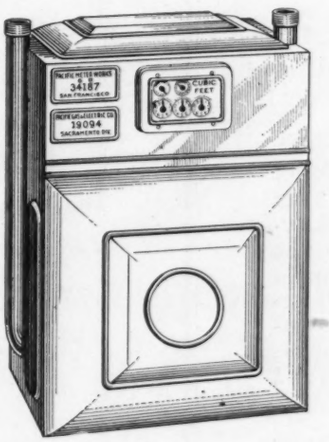

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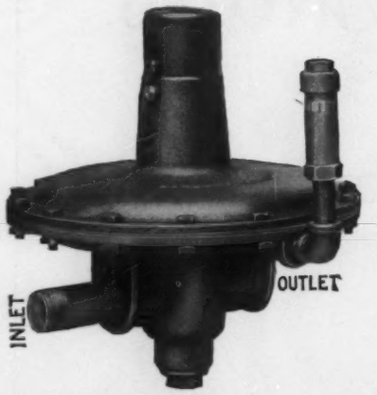

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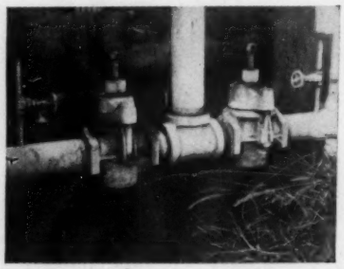

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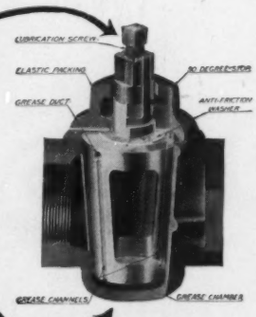

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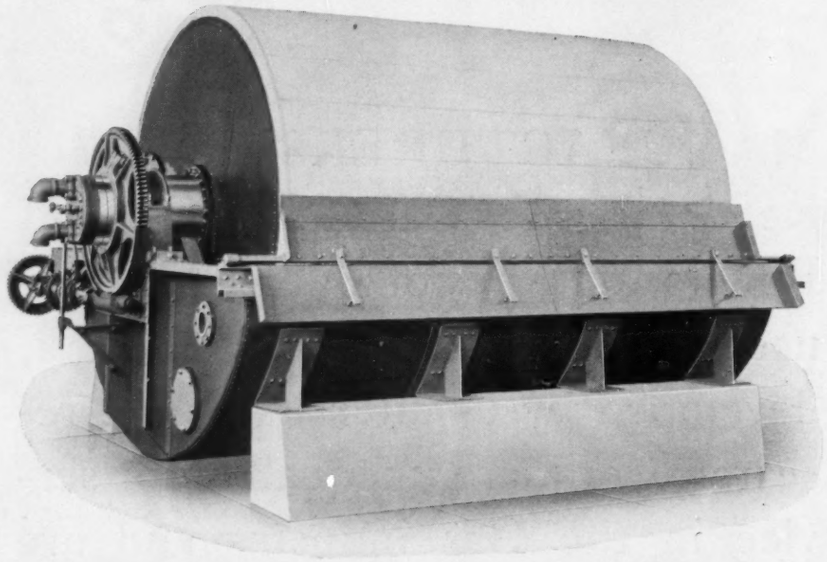

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WESTERN GAS

A Monthly Journal of the Gas, Gas Appliance and Natural Gasoline Industries in the *Eleven Western States*

The Scope *of* Our Western Industry

Three Links in Gas Utility Chain Must Be Welded Firmly Together. Association-Mindedness Is Essential

By Clifford Johnstone
Executive Secretary, Pacific Coast Gas Association

IT is altogether fitting that the first issue of Western Gas should be devoted to a stock-taking of the Pacific Coast Gas Industry. A publication devoted to our industry must of necessity saturate itself with facts and figures concerning our industry; it must live our lives and dream our dreams; it must draw our best thinkers into its service so that it can speak with authority; and above all, it must start its life with a full and unprejudiced understanding of our business as it exists today.

Western Field Wide In Scope

The Pacific Coast may be defined as comprising the states of Washington, Oregon, and California, and the Canadian Province of British Columbia. To these must be added the adjacent states, Arizona, Nevada, Idaho, and Western Montana, for in these states the outlet and thought is westward rather than eastward. In this vast empire there is roughly $200,000,000 invested in 55 gas companies which supply gas to about one million and a quarter homes and industries, located in 375 cities, towns, and villages. Using the ratio of five to a family, we are therefore serving some five and three-quarter million people, or about 80% of the total population. In 1924 over 100 billion cubic feet of gas was sold to these people, and a revenue of nearly 60 million dollars was derived from the sale. The annual sale of gas is increasing at the rate of 20% per year, which is a faster rate than the general increase in population.

This is the basic part of the industry, but it is not all. There are several scores of factories turning out gas appliances, some for use locally and others with national reputations. There are branch sales offices of eastern appliance manufacturers, and in every large center there are groups of manufacturers' agents and jobbers dealing in nothing but equipment intimately connected with the use of gas. In addition to these there is that important adjunct to every business—the retail merchants. In the hands of these men lies the responsibility of supplying to the gas user the appliances which he must have in order to use gas at all. Department store and plumber, exclusive gas appliance merchant and hardware store, everywhere that gas is available, with competition from the gas company or without it, the retailer is selling appliances to the gas user, and upon what he sells and how he sells it, largely depends the reputation of gas as fuel.

Clifford Johnstone

Three Links In Gas Industry

This is the chain upon which our service and reputation hangs—a chain of three links—the gas producer, the gas appliance manufacturer, and the gas appliance marketer. Each link must be of equal strength and all three links must be firmly united. Sound business principles and our obligation to the public both demand it.

The bond between the links is mutual self-interest, and the instrument for interpreting this self-interest is the Association. The successful functioning of the chain depends upon the strength and efficiency of the Association. The Association is a court for the adjudication of differences, a council chamber for planning the future, a voice with which to reach the public, a forum for the interchange of experience, an agent for the accumulation of statistics, and a storeroom for the preservation of hard-won knowledge.

This is the essential situation, but many complications and some weaknesses exist. The gas producer is often an electric producer, and because of the romance connected with the tremendous possibilities of electricity, the development of the equally tremendous possibilities of gas has been neglected. The

(Continued on Page 37)

Growing *in* Advance *of the* Growing West

A Few Side-Lights on Course of Western Gas Utility Growth in 1924—Further Expansion Plans for 1925

By GEORGE H. FINLEY

IF any member of the western gas industry were disheartened over the industry's recent progress or were at all dubious as to its future strides forward—unlikely as such a circumstance is—he might readily be brought to a saner and more optimistic frame of mind if he would talk for a few minutes to representative leaders in the western gas field. If he could hear their plans for the future, or persuade them to recite a few of the accomplishments of the immediate past he would leave with firm confidence in the growing gas industry of the west.

For gas companies of this great region have but one story to tell. Representatives of WESTERN GAS in the past few weeks have learned that story by heart, hearing it from every quarter of the west. It is a story of tremendous past growth in service of growing western communities, and of out-reaching expansion projects immediately ahead, planned with the foresight which recognizes that gas utilities serve best by anticipating the ever-expanding demands for their product.

In this gratifying story of progress that has come from all sides there are separate chapters on additions to plant equipment, on shattered production records, on installation of new services (by the thousand), on the erection of splendidly modern office structures, on the voting of large budgets for immediate expansion.

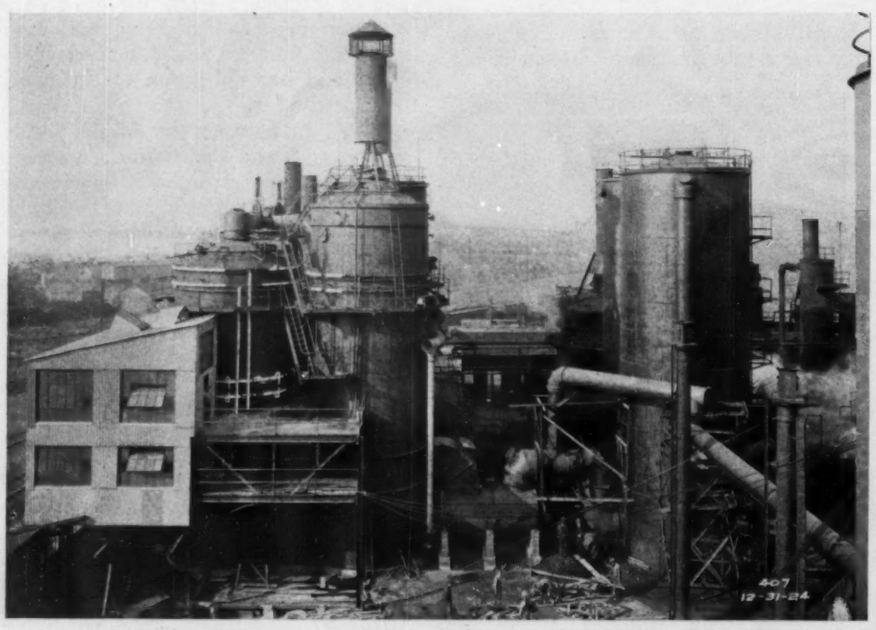
One sure indication of growth and of expected growth is the addition to plant equipment and the acquiring of property. If a cross-section of our western gas industry were taken, with this gauge of progressiveness in mind, these are some of the high-lights that would be revealed as accomplishments of 1924:

Two new office homes—credits to the industry both—should receive mention. That of the Pacific Gas and Electric Company, recently completed at 245 Market Street, San Francisco, is a thoroughly modern business home, housing approximately one thousand of the company's employees.

That of the Los Angeles Gas and Electric Corporation at Flower and Eighth Streets, Los Angeles, is a twelve-story, Class A, height-limit fireproof structure—one of the show places of the city, both in interior and exterior.

Production Department

Along with late additions to production equipment have come increases in actual production. Among western companies carrying through a 1924 expansion program of major proportions was the San Diego Consolidated Gas and Electric Company. A 500,000 cu. ft. capacity relief holder was added to this utility's storage facilities at a cost of $285,000. The holder, which went into use in December, 1924, contains an internal oil storage tank with a capacity of 83,500 barrels of fuel oil. The same company last year built a 5,000,000 cu. ft. daily capacity two-shell oil gas generator, with complete automatic control, costing $130,000. This gives the San Diego Company a total generating capacity of 15,000,000 cu. ft., well in excess of present demands. The high point of the company in daily send-out was reached last Christmas day with a record of 10,097,000 cu. ft.



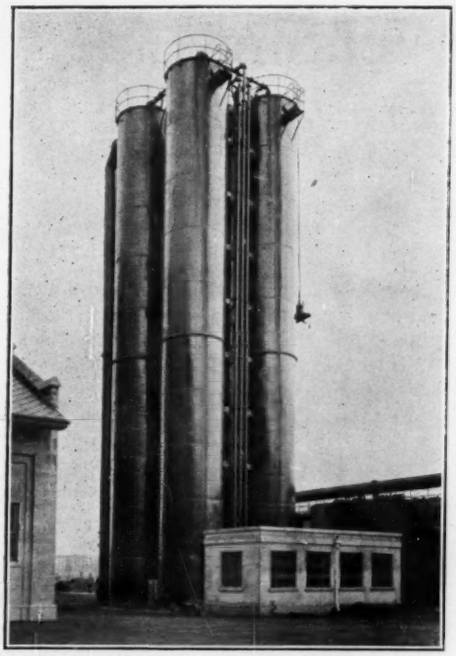
More Gas for San Diego—5,000,000 cu. ft. per day generator installed by the San Diego Consolidated Gas and Electric Company

The major plant additions made by the Pacific Gas and Electric Company's gas department were at the Potrero plant on Humbolt Street, San Francisco, though increases in generating equipment were made at central points throughout all the company system during 1924. The Potrero plant now covers eleven acres, and combined with the much smaller Metropolitan plant manufactured a total of 8,547,047,000 cu. ft. of gas in 1924. The daily send-out from these two plants reached a peak on December 19, with a record of 34,565,000 cu. ft. The rated daily capacity of the Potrero plant alone is now 30,000,000 cu. ft., 10,000,000 cu. ft. being added last year with the installation of two oil gas generators. Two batteries of new design double end firing boilers added to the plant give it a 6,000 boiler H. P., the new installations increasing the former rating by 2,400 H. P. In 1924 the daily purification capacity of the plant was increased from 24,000,000 cu. ft. to 36,000,000 cu. ft. Two steam compressors of the Unaflow steam engine type, each of 250,000 cu. ft. per hour capacity, were also put in operation last year, being the first of that type on the Coast.

Portland Consumption Leaps

A 500,000 cu. ft. district gas holder and an 11 ft. water gas machine are the main items of production equipment reported as 1924 additions by the Public Service Company of Colorado, Denver, Colorado. From the same source comes the report of a 19% increase in gas sales last year over the year preceding. The 1924 sales were 2,413,133,000 cu. ft.

Additions to the Southern California Gas Company plant equipment include four new 500 H. P. boilers and a new compressor plant in Los Angeles. This gives the Southern a total compressor



Set of four-tower scrubbers added to Portland Gas and Coke Company plant

capacity of 75,000,000 cu. ft. in twenty-four hours (at varying pressures). The same company has to its credit a new 3,000,000 cu. ft. holder built at Colton, Calif., the erection of three district office buildings, at Torrance, Corona and Beverly Hills, and the purchase of six sites for office buildings. The new Distribution Building, constructed at 1700 Santa Fe Ave., Los Angeles, in which the distribution, engineering, purchasing, and store departments, and the meter shop are housed, should also be listed among 1924 additions.

Boosters and other plant equipment installed last year by the Southern Counties Gas Company called for a $334,000 expenditure.

The Coast Valleys Gas and Electric Company, Salinas, Calif., added a 30,000 cu. ft. per hour Jones gas set to its equipment at Monterey, Calif., installing it beside a duplicate set, both housed in a building scarcely two years old.

Improvements in the Santa Cruz gas plant of the Coast Counties Gas and Electric Company, made at a cost of about $150,000, include a new $55,000 gas holder, new boilers, separators, blowers, and other equipment. The holder is of 300,000 cu. ft. capacity and holds 1,500,000 gallons of water. Another holder, built at a cost of $20,000, has been installed by the same company at its Pittsburgh plant to serve the growing needs of the Contra Costa county territory.

The expenditures of the Los Angeles Gas and Electric Corporation for additions and betterments to its production department totalled $1,760,000, not including a $2,590,000 item for general betterments, and another of $1,721,000 for land purchases. Some of the principal additions covered are a 7,000,000 cu. ft. gas generator set, giving the Corporation a battery of five mammoth generator sets and sixteen sets of smaller capacity; a 10,000,000 cu. ft. gas holder, the third of its size in the Corporation's system, and purchase of a site for future gas works expansions.

Serving six towns in Alberta, Canada, the Northwestern Utilities Limited (offices in Edmonton, Alberta) spent $187,266 for plant equipment last year. Its total of gas sold in the first quarter of 1925 was 684,130,000 cu. ft., more than half the send-out of 1924.

Consumption Leaps in Portland

The Portland Gas and Coke Company tells of $1,026,000 spent in 1924, $400,000 of which built two new generators and a large compressor. Another notable 1924 addition to the Portland company's equipment is a set of four-tower scrubbers, 85 ft. in height, shown in an illustration in this issue. A total gas send-out of 3,887,223,000 cu. ft. in 1924 boosted the 1923 record of the Portland Gas and Coke Co. by 17%. This figure represents nearly three times the amount of gas used in Portland ten years ago! Verily, gas must be keeping abreast of the times in Portland.

Word comes from Vancouver of a 2,000,000 cu. ft. daily capacity gas plant completed by the British Columbia Electric Railway Company, Ltd., at a cost of $400,000. A 276 H. P. waste heat boiler for vertical retorts, the first of its kind in Canada, has been installed in the new plant, and another boiler of the same type is under construction.

So much for 1924 additions to production equipment and increases in actual gas production. Another certain index of growth in a company's activities is the improvement and extension of its distribution lines and the accompanying installation of new services. This measure, applied to western companies last year, is another chapter in the same story of growth—in proof of which witness the following items, which are taken from a field of similar ones:

Gains in Distribution Department

New services—3,245 of them—installed in 1924 by the Public Service Company of Colorado, together with 4,972 new meters and 95,181 feet of mains.

A total of 517 miles of mains laid by the Southern California Gas Company in 1924. In its San Fernando division alone this company added more than 7100 consumers to its lines, and its Downey division reports a gain of 3551 meters.

An increase of 5,597 new services made by the Fortland Gas and Coke Company—which bettered 1923 by 14%, giving the company's distribution net-work an aggregate of 1,390 miles, with 83,807 customers served. The Portland Company shows a 28% increase over 1923 in number of gas-heated houses in its system.

Approximately 270 miles of commercial gas mains laid by the Los Angeles Gas and Electric Company.

A gross capital expenditure in 1924 of $2,068,000 in betterment of the Southern Counties Gas Company's system. Of this sum $164,132.00 went toward additions to transmission lines, 12 miles being laid, giving a 306 mile total for the system; $890,000 of additions and betterments to distribution equipment, with the addition of 231 miles of new line, making a total of

(Continued on Page 36)

New height-limit home of Los Angeles Gas and Electric Corporation

Record Time Being Made *on* Ventura Line

Southern Counties Gas Company Ties Ventura Field to Los Angeles with 84-Mile Transmission Line—Cost Estimate, $1,500,000

By Clyde H. Potter
Southern Counties Gas Company

THE Southern Counties Gas Company, natural gas distributors in more than fifty cities of Los Angeles, Orange, San Bernardino, Ventura and Santa Barbara Counties, bids fair to make a record as far as time is concerned, in the installation of its 84-mile, 12-inch natural gas line, which is to tie the Ventura River fields, near Ventura, with the company's comprehensive transmission system near Los Angeles.

This great piece of construction work, to cost approximately $1,500,000, was started late in February of this year and completion will be made not later than June 1, according to company engineers.

The entire line will necessitate the installation of 445,000 feet of 12-inch steel pipe. Orders for this pipe were telegraphed to the United States Steel Corporation on February 10, and one week and one day later, on February 18, the first carloads of rolled pipe were enroute to California. The initial shipments were received in Ventura County on March 4, less than a month after the pipe was ordered from the steel mills.

Speed Show in Delivery of Pipe

Practically all of the pipe for this big project, according to Southern Counties Gas Company engineers, M. R. Thompson and A. F. Bridge, had been rolled and was either enroute or had been delivered by April 1. It was distributed along the railroad line between Ventura and Los Angeles as the requirements of the construction contractors were made known.

It is interesting to note that the freight on the pipe will total $180,000. The main, before placed in the ground, will be covered with two coats of petrolastic cement, which will protect it and tend to lengthen its life. Approximately 720,000 pounds of this protective covering will be used on this job.

When it became apparent to the company that time was an important factor in getting this line into operation, it was decided to let the contract for the 84-mile line to several individual contractors in order to speed up the work. The Lang Transportation Company was awarded the contract for the largest section of the line, approximately 53½ miles being laid out for this organization. Lawrence Massa was given a section of 25½ miles and Hunter Nicholson was awarded the balance, about 7 miles.

FEATURES OF VENTURA PIPE LINE PROJECT

Line requires 445,000 feet of 12-inch pipe.

Over 700,000 pounds of protective cement covering will be used on pipe before embedding it.

Possible delivery at Los Angeles of 25,000,000 cubic feet of gas a day, with intake pressure at Ventura plant jumped to 450 pounds.

Completion of 84-mile line estimated at 120 days from date of planning.—Editor.

In addition to the 84-mile transmission line, a 2-mile, 20-inch suction main is being installed from the company's plant on Ventura avenue to the gas field. This line is to carry the gas from the wells to the Southern Counties' plant from which it will be sent on its long way toward Los Angeles. This 2-mile suction line is also being installed by the Lang Transportation Company.

Many different engineering feats are being encountered and met by the three construction companies in the installation of this gas line. Running cuts or tunnels, traversing streams and washes as well as passing over two highly elevated points are features which are affording the contractors thought and worry.

Route of 84-Mile Line

The route of the line is as follows: Ventura Gas Plant, Ventura, Santa Paula, Fillmore, Piru, Camulos, thence crosses the Newhall Ranch and Pico Canyon to Newhall, thence over the Newhall hills through the famous Fremont Pass to San Fernando, then on to Burbank, Glendale, Los Angeles, where it will tie into a line connecting with the Southern Counties Gas distributing system.

At a point near Camulos, the line will cross the Santa Clara River. For this crossing a suspension bridge is under construction. A span of 450 feet over the river bed must be overcome with a suspension cable. This work is now well under way and will carry the 12-inch line safely over the Santa Clara River.

The line will cross the mountains near Newhall, where an elevation of 1750 feet above sea level is reached, the highest point on the entire line. Not a little time and a great deal of effort were expended in carrying the main over this summit.

The amount of natural gas which will pass through this line will depend upon the requirements, both in Ventura and at the southern end of the line. With a 275-pound intake pressure at the Ventura plant approximately 15,000,000 cubic feet of gas can be transmitted in 24 hours. By increasing this pressure at the Ventura plant to 350 pounds, the deliveries at the Los Angeles end may be boosted to 20,000,000 cubic feet, and further, by jumping the pressure at the Ventura end to 450 pounds, the deliveries at Los Angeles may be increased to 25,000,000 cubic feet of gas in a day.

In order to put the above amounts of gas through the new line at the required pressure the company has found it necessary to enlarge to a considerable degree its Ventura Compressor Plant. The company is now adding seven first stage and two second stage units, making a total of 15 units for the plant. These units are 160 H. P. gas engine driven compressors, which are being neatly housed in some ample compressor buildings now being rushed to completion.

Three Months to Line Completion

Engineers Thompson and Bridge state that less than 120 days will elapse from the date on which the line was planned to the date of completion. In this brief period, plans for the work were perfected, orders for material were placed, contracts awarded, materials arrived and were installed, and all of the countless features which attend the laying of a long line were handled in a satisfactory manner.

The Southern Counties Gas Company is making a fine record in the installation of this piece of work. To accomplish it all, departments of the company are working as a single unit. And when finis is written on the job the company will have brought a large supply of natural gas from the north to the Southern Counties distribution system near Los Angeles.

Description *of the* Waterless Gas Holder

Tar Seal Is Distinctive Feature of New Type Gas Holder—Explanation Given of Methods Used in Construction

By A. S. Miller
Vice President, Bartlett Hayward Company

THE waterless gas holder consists primarily of an envelope, the section of which is a polygon and in which moves a piston. As gas is pumped into the holder the piston rises and the weight of the piston forces the gas out, as it is required.

As built, the holders have from 10 to 28 sides, depending on the capacity and heights, varying from 1.20 to 1.67 times the diameter of a circle circumscribed around the polygon. The holder has a roof over it and usually has windows in the side, immediately under the eaves, in order to permit the illumination of the piston and the sidewalls above the piston.

Tar Seal is Distinctive Feature

The important feature is the tar seal which acts to prevent gas flowing between the piston and the sides of the holder. The seal consists primarily of a rubbing plate turned up slightly on the edges so as to permit it to slide smoothly on the holder plates. Where the rubbing plate passes the columns a special form is used, which interlocks with the plate between the columns. The plates are kept in contact with the sides of the holder by weighted levers and are thin enough to accommodate themselves to any irregularities in the surface against which they move. The joints between the plates and the piston are made by canvas attached to the back of the plates and carried over to the side of the piston. This canvas does not touch the side of the holder and is not subject to friction or other strain than that caused by the weight of the tar.. It should last as long as the foundation under the holder. Such tar as may leak by the rubbing strip will run down into a reservoir made by placing a dam sheet inside of the holder, 4 or 5 feet from the sides. From this reservoir tar flows under a diaphragm and over an adjustable weir to a tank. The tar being heavier than water will flow under the diaphragm and the water will remain in the reservoir. There are usually about half as many overflows as there are sides to the holder, and in addition there is a water overflow similar to those provided for the tar, except that the diaphragm is omitted and in the water overflow the weir is kept slightly higher than it is kept in the tar overflow, so that there will always be a very thin layer of water on top of the tar.

THE accompanying article is a paper read by Mr. Miller before the Eastern States Gas Conference on April 22, at Newark, N. J. The largest holder of the type described that has yet been erected is now being built for the Los Angeles Gas and Electric Corporation at Los Angeles, Calif., by the Bartlett Hayward Company. The holder will have a capacity of 15,000,000 cubic feet.

—Editor.

From the overflow the tar runs into tanks to each of which is attached a motor driven pump. When the tar rises above a certain level in the tank a float rises and throws a switch which starts the motor driving the pump. This forces tar back into tanks near the top of the holder from which it overflows into the tar seal.

Piston and Rollers

The piston is trussed and plated so as to hold gas and to give it the necessary rigidity to permit it to be guided by rollers which maintain it in a horizontal position. The radial rollers are arranged similar to those on the ordinary gas holder and the vertical distance between them is about one-tenth of the diameter of the piston. As there is no wind-pressure or other force tending to upset the piston, this spacing is sufficient to keep the piston substantially level. There are no tangential rollers, but two pairs or more, depending on the size of the holder, of brass rubbing strips are installed at columns to prevent a horizontal or spiral movement of the piston.

The columns are made of eye-beams to the inner side of which are riveted bars, which have been drilled and milled to the necessary angle to give the form of the required polygon. To the milled edges are riveted the sheets. These are made usually of No. 9 steel, which is stiffened by being flanged in a large brake. The flanges are from 7 to 12 inches deep, depending on the size of the holder, and they are turned over 2½ inches on the outer end. The flanging of the sheets gives all the stiffness that is required between the columns. The columns are firmly bolted to the foundation, and with the side sheets, form a very stiff girder to resist the wind-pressure. Around the holder on the outside are galleries varying in number with the size of the holder. The purpose of these is to permit inspection and painting.

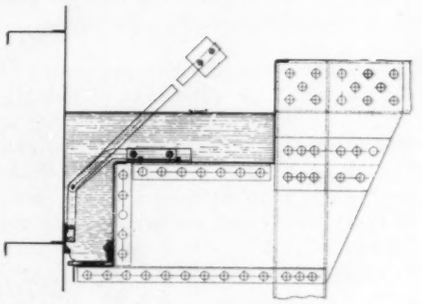


Figure 2

At intervals around the holder, slightly below the top, are slots connected with pipes running above the level of the roof. When the slide passes the slots gas will blow out through them and they thus act as safety valves to prevent the piston rising high enough to damage itself or the roof.

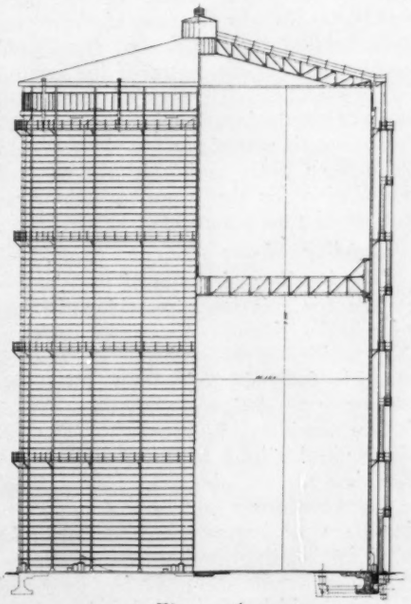


Figure 1

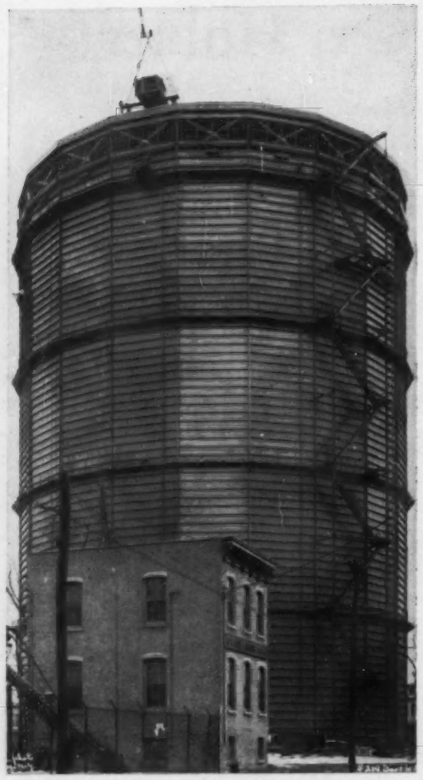


Figure 3. View of completed holder, 3,000,000 cu. ft. capacity.

A ladder is provided in the center of the holder to permit access to the piston. This ladder is jointed so that it folds on the piston as the latter rises and unfolds as it falls. The ladder is made double so that there are rungs both in front and behind the person using the ladder.

Method of Construction Described

The method of erection is most unusual in that the roof is built on supports resting on the piston while the later is on the ground. Following this the holder is completed and the roof fastened in place. Generally, the method of construction of the bottom and the lowering of it in place is similar to that followed in the ordinary type of holder tank. After the bottom is placed, the piston trusses are assembled and the piston is plated. Meanwhile, the roof trusses are assembled, resting on the piston through intermediate temporary supports, and the roof is completed except that openings are left through the plating for the eye-beam columns. About three rows of siding sheets are put in place, and without any liquid in the seal air pressure is applied and the piston is raised the height of one sheet, in which location it is hung on plates attached to the columns. The lifting derricks are assembled on the roof and the working scaffolds are hung from the roof. An additional row of sheets is riveted in place, after which the piston is blown up through the space of another sheet and again hung on the plates attached to the columns. The columns are put up in small sections and the process of blowing up and adding sections of columns and sheets is continued until the top is reached. When the last section of column is placed, the roof is riveted in its final position, the windows are placed, the openings through the roof for the columns are closed, and the holder is complete.

Scaffolding and Galleries

The scaffolding has two levels, and when galleries are erected the work is done from the lower scaffold. The gallery would naturally interfere with the bar on the inside of the scaffold, so that when the gallery is being erected the inner scaffold bars are removed and other bars substituted which are attached to the flanges on the holder sheets. After the gallery is complete, the bars are loosened and the floor of the scaffold, which is hinged, falls to a vertical position, being supported by the outside angles, and is then drawn by the gallery, which has just been completed. After passing the gallery, the scaffold is reassembled and work continues from the assembled scaffold until the location of the next gallery is reached, when the same routine is followed as was the case with the gallery below.

The advantage of this type of holder is the material saving in the cost of foundation in locations where the ground has limited bearing power, the cost of the installation and operation of the heating plant and a very large part of the expense of painting. In the case of a 6,000,000 cubic feet capacity water tank holder, the load on the foundation is about 90,000,000 lbs., whereas in the case of a waterless holder of the same capacity, the load would not be over 6,000,000 lbs. In the case of the water tank holder, the load is well distributed and is not a serious matter if the ground has a safe bearing power of, say, 3000 lbs. per square foot, but in case the bearing power is materially less there would be a very great saving in the case of foundation for the waterless holder, as compared to a water tank holder.

Bending Sheets Presents Problem

The bending of sheets of the size required for this work calls for the use of a brake of unusual size and stiffness. No machine capable of doing the work could be found in the market and it was necessary to design and build a brake before work could commence. The ordinary brakes have a bearing at each end and few are available over 16 feet long. Even these brakes are not stiff enough to handle very heavy metal. The brake used for bending the holder sheets is designed to handle sheets 32 feet long and 3-16-inch thick. It has a bearing about every 5 feet, and is so rigid in every part that with it plates may be bent to almost exact angles and dimensions.

More than ten years of steady use has proven this design of holder to be practical and satisfactory in all respects. Between 40 and 50 have been completed and an additional number are under construction and under contract.

Explanation of Figures

Figure 1 shows a section of the holder. In the middle of the holder will be seen a truss, which is the moving piston. This is heavily plated and gas tight.

Figure 2 shows the tar seal. The vertical line at the side with the projecting parallel lines indicates the side sheets of the holder. The rest of the structure is part of the piston. The rubbing plate may be seen, and lying against is a wood bar whose function is to keep the canvas from contact with the side of the holder. The depth of the tar above the rubbing plate is about double the holder pressure, so that no gas may have leaked through the seal.

Figure 3 shows the holder recently erected at Flushing, N. Y. It has a capacity of 3,000,000 cubic feet, and is 146 feet in diameter and 204 feet, 2½ inches from the top of the foundation to the eaves.

SOUTHERN COUNTIES OFFICES MOVE TO L. A. GAS BLDG.

The sixth floor of the Los Angeles Gas and Electric Corporation's new home, at Eighth and Flower, Los Angeles, is soon to acquire a tenant. The Southern Counties Gas Company will move from its present location at 810 South Spring to occupy new quarters in the L. A. Gas Building about June 1.

Convention time is a good time to renew old acquaintanceships. Renew them at Portland, August 17-20.

R. M. CONNOR CHOSEN FOR LABORATORY POSITION

R. M. Connor, laboratory chief of the Portland Gas and Coke Company, has been appointed director of the gas appliance testing laboratory established at Cleveland, Ohio, by the American Gas Association.

Mr. Connor has been representing the Pacific Coast Gas Association in the gas appliance testing work that has been conducted in Los Angeles since February 1, 1925, by the Mayor's committee. He will be free to assume his new duties soon after May 1.

SUPPLY OF FUEL DWINDLING ACCORDING TO REPORT

Although the United States has within its borders the largest supply of fuel in the world, including oil, natural gas and coal, nothing will be left within a few decades except coal, declares an exhaustive report prepared by a committee of experts for submission to the third biennial meeting of the International Chamber of Commerce at Brussels, June 21 to 27. The report, which suggests possible ways of conserving the remaining solid fuel supplies of the country was made public today by the American section of the Chamber.

The California Natural Gasoline Outlook

Stability Will Characterize Natural Gasoline Industry of California in 1925, Is Prediction of Los Angeles Authority

By K. L. Reynolds
Assistant General Manager, Pacific Gasoline Company

The following paper was delivered by Mr. Reynolds at the annual convention of the Association of Natural Gasoline Manufacturers, held at Tulsa, Oklahoma, on April 22 and 23.—Editor.

IN common with most prophecies, this paper will consist mainly of a brief review of the past. The subject may well be enlarged and called "The Probabilities for California Natural Gasoline in 1925 as Indicated by the History of 1924."

No one present desires to be tormented with a monotonous array of figures. There are a few, however, which are essential and to make them obvious, a chart has been prepared which, in itself, is a fair index of the outlook in California.

California oil fields are usually divided into two large producing divisions, the northern fields and the southern fields. Each district comprises a large number of pools, each having its own peculiarities, but generally speaking, the two districts are radically unlike in character, not due necessarily to the nature of producing formations, but more because of their treatment by man.

Fields of North and South Differ

The northern fields, in which we include the San Joaquin Valley and Santa Maria areas, are essentially developed by large producing organizations, and the drilling has been conservative in character, and in most places the formations are being carefully protected.

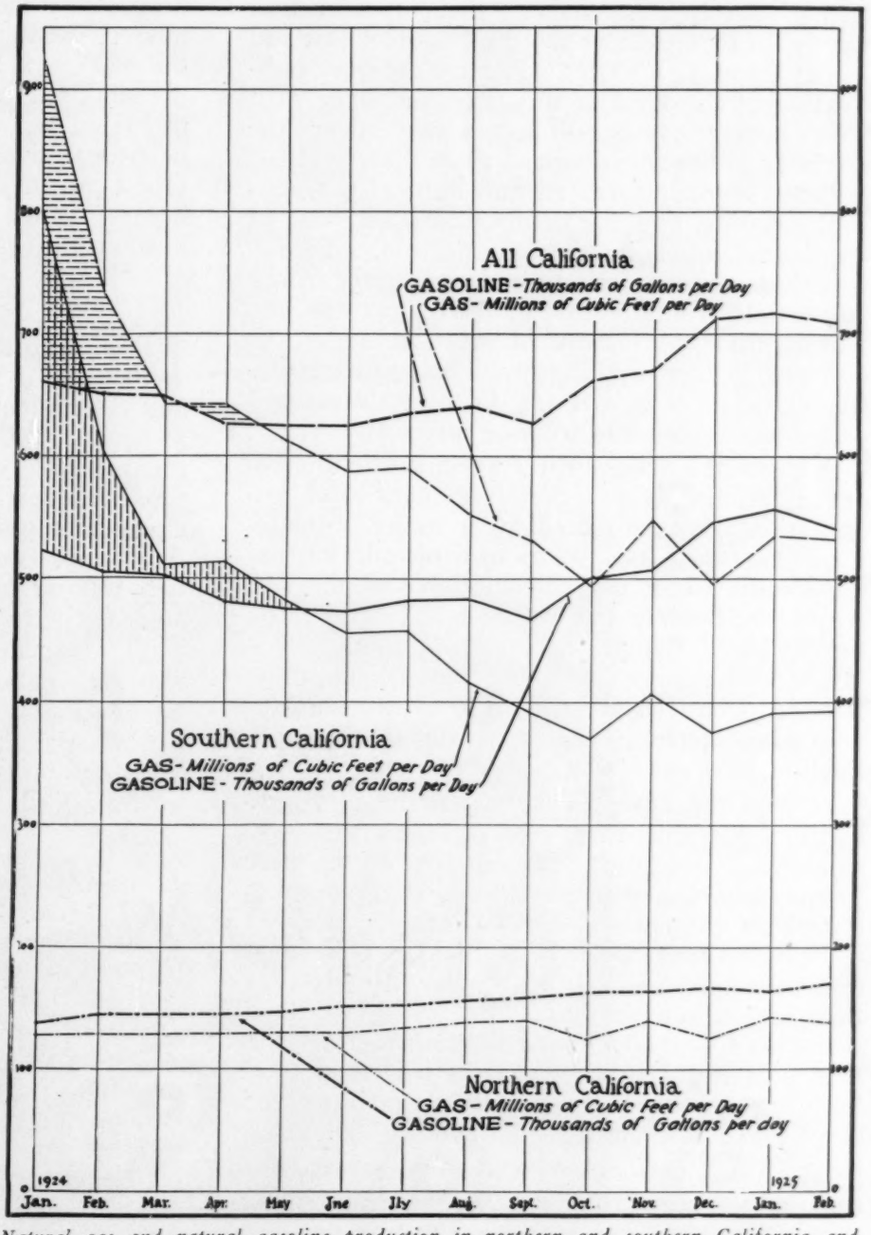
The southern fields, in which we group the areas under development in Los Angeles, Orange, and Ventura Counties, constitute a more variable consideration. Not long ago, an officer of one of the very successful small oil companies operating in Southern California was consulted for advice in reference to the purchase of a one-well lease in financial distress. After hearing the general details of the proposition, his first comment was, "It might be a good bet if you are using the public's jack, but if it is your own, I would stay off of it." Nearly all of the most valuable pools in Southern California have been, in some measure, ruined by incompetent operators betting the public's "jack." In such cases, much of the drilling has been carried out on a town-lot basis with its resultant heavy competition, quick development and short life. These conditions are well known, but they must be emphasized in the present connection.

We have before us figures representing daily averages for natural gas and gasoline producing during 1924, together with the number of plants operating during that year. The curves which have been drawn represent these values, and from the conditions which they indicate a prediction has been made for the year 1925. From these curves, it can be seen that:

Think Southern Curve Will "Flatten"

1—For the southern fields at the beginning of 1924, the daily average gas production was around 800 million cubic feet, and shows a radical drop, with the expected tendency to flatten out at the end in the neighborhood of 400 million cubic feet. The gasoline curve for the same time has a sag throughout, starting

(Continued on Page 35)


All California
GASOLINE - Thousands of Gallons per Day
GAS - Millions of Cubic Feet per Day
Southern California
GAS - Millions of Cubic Feet per Day
GASOLINE - Thousands of Gallons per Day
Northern California
GAS - Millions of Cubic Feet per Day
GASOLINE - Thousands of Gallons per day
1924
Jan. Feb. Mar. Apr. May Jne Jly Aug. Sept. Oct. Nov. Dec.
1925
Jan. Feb.

Natural gas and natural gasoline production in northern and southern California and entire state—January, 1924, to February, 1925, inclusive. Shading emphasizes excess of gas over gasoline production early in 1924

EDITORIAL

Introducing WESTERN GAS

WESTERN GAS herewith makes its bow. In doing so it realizes its responsibilities as well as its opportunities. It is mindful of the frailties of all things human, and it claims no powers superior to those vouchsafed other mortals.

To our subscribers, readers and advertisers let us say, first of all, WESTERN GAS is your publication. We want your suggestions, your criticisms, your help in making this a publication worthy of this great field—the Pacific Coast and Rocky Mountain States. We are the only publication of the kind in this field and only with your hearty co-operation can we cover the territory to the advantage of those closely allied industries—manufactured and natural gas, natural gasoline, and the manufacture and sale of appliances used in that connection. Please, therefore, do not hesitate to write us regarding any article or any feature of the magazine—any feature that you believe should be added or omitted; in fact anything in the way of constructive criticism that will add to the publication's usefulness to you and to your interests.

A word of sincere appreciation is due the two organizations whose encouragement and co-operation have smoothed away many obstacles for WESTERN GAS. In sponsoring our journal the Pacific Coast Gas Association and the Gas Appliance Society of California have given us a timely hand, which we shall not soon forget. We tender thanks, therefore, to all of those friends of both associations and of the industry who have shared in the launching of this publication.

It is to the advertisers, who make this publication possible, that special felicitations are extended. We point with much pride to these progressive men who have enabled the launching of an enterprise of this character, and we want to make it worthy of them. Whenever possible to do so we ask our readers to patronize these men, and to ask their friends to do so. That is the kind of co-operation that is practical and that will build up business in this field, and building up this business will mean improved service and lowering costs. We will all profit by it. We therefore ask readers who patronize these advertisers to favor us by saying they saw the announcement in WESTERN GAS.

Finally, we want to "get acquainted." Come and see us; tell your friends about us. Let's "get together" and make the Gas and Allied Industries take their proper place in the industrial development of this great field.

Let Them Know

THE people should know more about gas for heating, cooking, industrial and scientific purposes. Our gas men have allowed themselves to be backed to the wall and "outtalked"—and they really have the best talking product, the longest used, the most efficient and cleanly on the market. They should "get together" as have the sunkist fruit and the raisin people and "let the people know" about it—and then they should be prepared to deliver the goods, as promised. Don't put in your ad what you can't put in the homes. When you do it hurts everybody in the business, yourself included.

Service, for Results

IT is up to the men in the business to see that the use of gas is made not only economical and convenient—but safe. Appliances must be as nearly "fool proof" as it is possible to make them, easy to keep clean, not likely to get out of repair, and if needing repairs parts must be cheap and quickly obtainable. The big thing these days is service and the gas man has the best talking proposition going if he can guarantee delivery of that very important commodity.

The retailer, especially, should get up on his toes and make sure that he and his sales force know something about gas and the requirements for its satisfactory combustion. The columns of WESTERN GAS are dedicated to furnishing this information in readable form.

Our Editorial Advisory Board

WESTERN GAS is justly proud of its editorial advisory board, comprising as it does many of the ablest men in the gas manufacturing and kindred industries in the country. These men will offer suggestions, based on long and successful experience, that can not help but prove very valuable to readers of this magazine. Contributions from others interested are also solicited, the names of such contributors, of course, to be furnished with their articles, which should be submitted not later than the 15th of the month to insure publication in the following month's issue.

Charcoal Process Introduced *in* Western Fields

Shell Company Places Charcoal Recovery Plants in Operation at Signal Hill and Dominguez Hill—Month's Operation of Dominguez Plant Indicates High Yield from New Absorption Method—New Plants Described—Charcoal Process Summarized

By R. W. Skoog and R. C. Alden

THE charcoal process of extracting gasoline from natural gas has increasingly grown in favor in Eastern and Mid-Continent oil fields. Among some of the companies to install extraction plants employing this principle are the United Fuel Gas Company, the Standard Oil Company of New Jersey, the Phillips Petroleum Company, the Skelly Oil Company, and the Shell Company of California.

Due to its possible applications in the extraction of gasoline from natural gas and refinery vapors, the charcoal process has become a subject of interest to everyone in the oil industry. Consequently, a few words regarding the operation of a charcoal plant may not be amiss at this point.

Charcoal Process Described

The charcoal process is a batch process. There are three vessels, called absorber-stills, which contain beds of charcoal. During operation one vessel is absorbing the gasoline from the inlet gas. The outlet gas from this vessel passes to the second one where it serves to cool the heated charcoal. The outlet gas from this second vessel passes to a gas cooler where the gas is cooled and entrained moisture removed. The third vessel is in the process of distillation, which is effected by saturated steam. The absorber-stills are manifolded so as to permit a periodic change, providing at the same time to maintain a flow of gas, steam and vapors through the system. The condensing elements greatly resemble those of an oil plant in their principle. The hot vapors first pass to a preliminary cooler or steam condenser which in essence corresponds to the dephlegmator of oil plant practice. The vapors from this cooler pass to a gasoline condenser. The uncondensible vapors at this point are compressed usually to about sixty pounds per square inch and subjected to a final cooling in order to obtain the maximum of salable gasoline.

This year marks the advent of the charcoal process in California fields. During March two charcoal plants were placed in operation by the Shell Company. Although the charcoal process is by no means restricted to removing gasoline from the residue of existing plants it is to this use that it has been put by the Shell Company. The charcoal plants were installed to treat the residue gas from the oil absorption elements at the big Signal Hill plant and the rapidly growing Dominguez Hill plant.

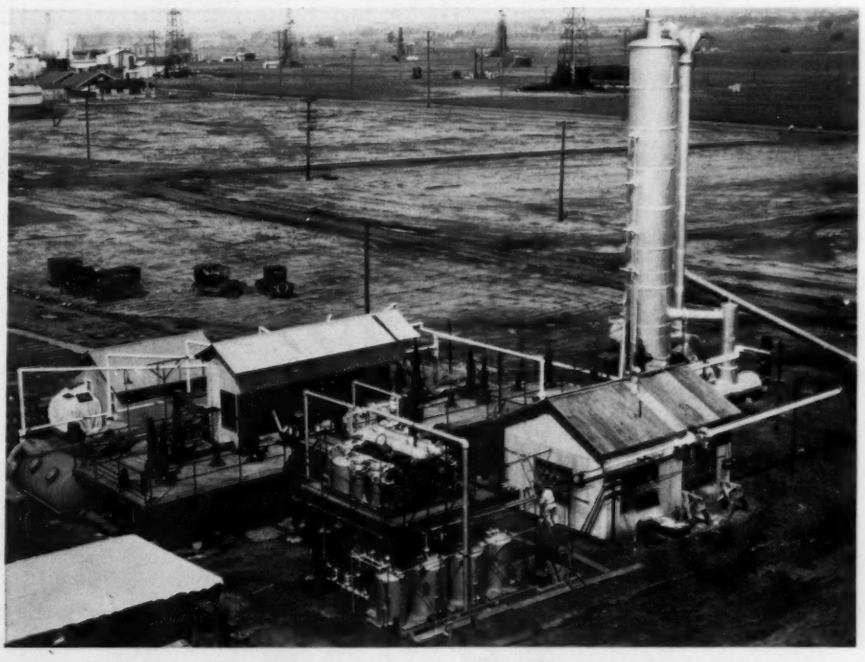
Plants Have 5000 Gallon Capacity

The design and construction of the two plants are identical. Each plant is nominally rated at 5000 gallons per day, each unit being 2500. With the principles of ready portability and adaptation to new locations in mind, each of these plants was built in two units which really comprise separate and distinct plants in themselves. The plants are built along the customary methods of charcoal plant design; in the usual very thorough manner of the Shell Company.

The absorber-stills are of the horizontal type to handle large volumes of gas. Instead of condensers of pipe coils, multi-tubular condensers are used, making a very compact condensing unit. The large 18-inch piping and manifolds at the absorber-stills are so designed that pressure losses are held to a minimum, and so constructed that expansion and contraction are well taken care of. Instead of the usual gas cooler of pipe coils, a vertical scrubber type cooler is successfully in use at each plant. In this cooler the gas in passing upward is met and cooled by water sprayed downward. Each plant has a recompressor in operation to handle the uncondensible vapors from the process. In order to protect the charcoal from absorbent oil carried with the gas a horizontal scrubber was installed between the oil plant and the charcoal plant.

It is perhaps a little early to analyze the results obtained by the Shell Company. The plant at Dominguez Hill has now been in operation almost a month. The results obtained so far may serve as some basis in judging what can be done with charcoal plants in treating the residue gas from existing oil plants.

At this location, one of the charcoal plant units has been in almost continuous operation for several weeks. To realize the full significance of the results obtained it must be borne in mind that the unit operated comprised merely a half of the installation, the entire installation being nominally rated at 5000 gallons per day.



General View of Completed Charcoal Plant at Dominguez Hill.

High Yield

The average daily production for a week in this unit of the plant was 5,708 gallons, or, in other words, well over twice the nominal rating of

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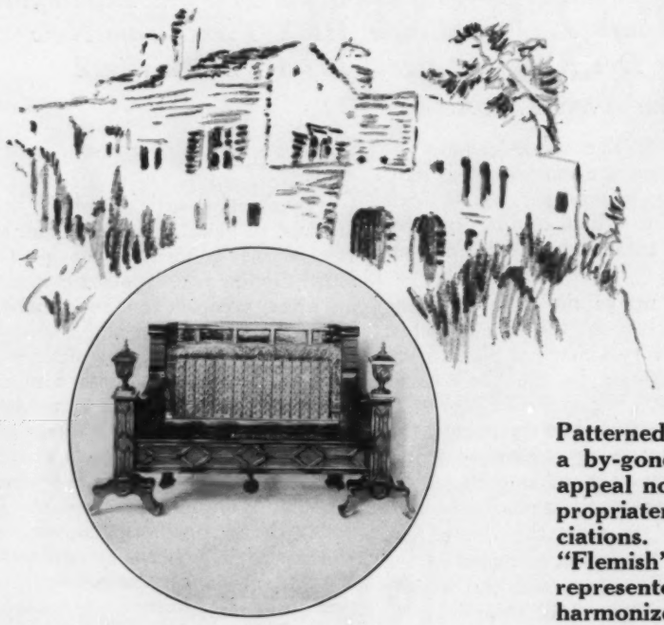

No. 160—"Mission"

The Romance of the Past Lives Again in

The HUMPHREY Radiantfire
REGISTERED TRADE MARK

Period Designs

Patterned after exquisitely designed fire-baskets of a by-gone day the period Humphrey Radiantfires appeal not only through their beauty and their appropriateness, but also through their romantic associations. "Colonial," "Adam," "Queen Anne," "Flemish" and "Mission" are some of the periods represented. There is a Humphrey Radiantfire to harmonize with every style of architecture and every type of home.

In every field of manufacture there must be one product that is recognized as the standard of value and quality.

That is why there is a special signifiance attached to such names as Tiffany, Steinway, Packard, and Gorham.

In the gas heating field the quality symbol is HUMPHREY — the product, RADIANTFIRE. United, these two factors spell the priceless word, Reputation.

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Radiantfire
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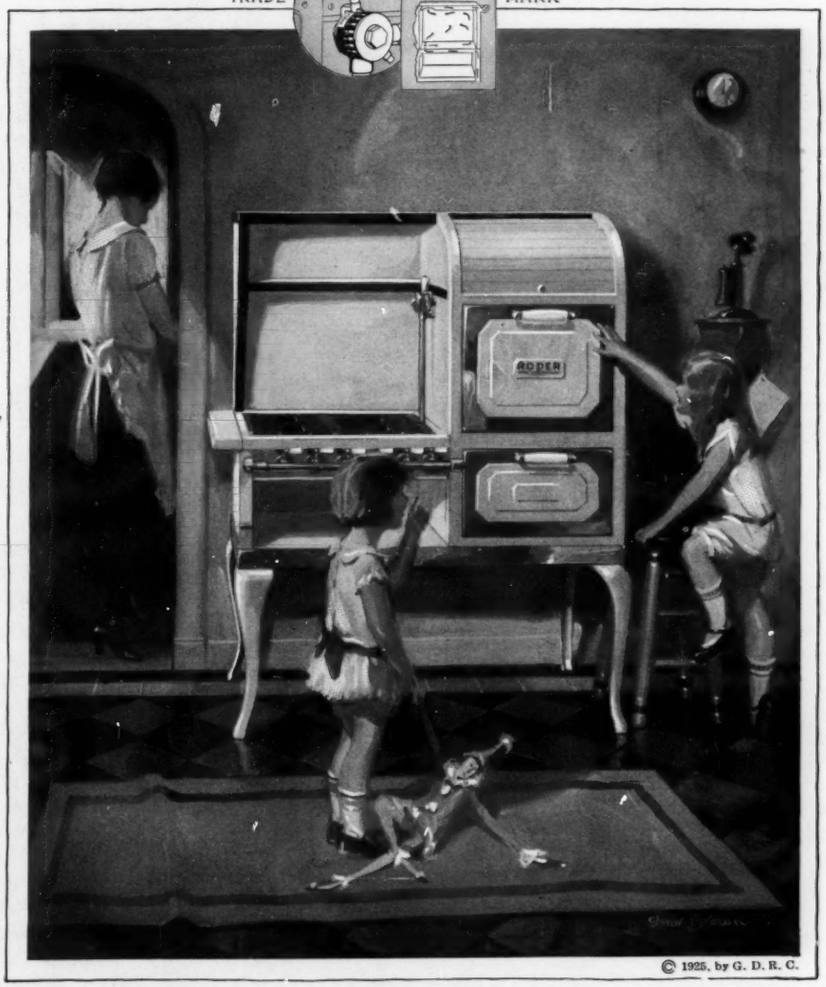
COMPLETE OVEN CONTROL

TRADE MARK



© 1925, by G. D. R. C.

The NEW ROPER---*A Sensation*

When the New Roper Range was unveiled by Roper merchants throughout the country, it created a sensation. This was because of the dramatic advertising that focused the attention of the country on the unveiling date, and because of the sheer beauty of the Roper Range when it was unveiled.

Never in the history of gas range manufacturing did a new range so occupy the center of the stage as did this New Roper. Throughout the length and breadth of the land, women who have seen and heard of the New Roper have had planted in their minds the seeds of desire to own this range of the new era—the latest Roper, well described by experts as the handsomest gas range in America.

With such a background, Roper merchants have a profitable sales opportunity that has never been equalled. For this Roper makes the best possible introduction for the whole Roper line, which offers a gas range for every purse and purpose.

Write for details of the Roper plan of merchandising that is breaking all sales records.

ROPER RANGES

TRADE MARK REG. U.S. PAT. OFF. REG. IN CANADA

GEO. D. ROPER CORPORATION
ROCKFORD, ILL.
Pacific Coast Branch
768 Mission St., San Francisco, Cal.

BE SURE THE ROPER PURPLE LINE AND THE ROPER COMPLETE OVEN CONTROL—ARE ON THE RANGE YOU SELL.

Are We Selling Stoves *or* Buying Junk?

M. M. Brown, San Francisco Retailer, Discusses a Trade Problem, the Competitive Bidding of Appliance Dealers in Setting Trade-in Allowances on Old Stoves—Remedy Offered for Evil

By H. Elliott Taylor

"IT'S going, gentlemen, going to the highest bidder. This fine old worn-out stove, with the broken leg and the sagging door and the oven-lining gone. It leaks, it creaks, it sways in the breeze—now who is the lucky gas appliance man who wants to bid on this fine piece of merchandise?

"Who is the lucky appliance man who will bid this in and sell me a nice new stove? Twenty-five I'm bid for, twenty-five, who makes it thirty? Thirty I'm bid, who'll say thirty-five? Thirty who'll say thirty-five, thirty—thirty—thirty, all through? All done? Going—going—gone, all done and sold to the Jones Hardware Company for thirty dollars. Boys, get a shovel and help the lucky man get his purchase out of the house."

"What's all the bidding about?" you inquire. Nothing much—it is just a dramatization of the manner in which gas stoves are being sold in too many communities of the Pacific Coast, according to M. M. Brown, of Chas. Brown and Sons, San Francisco hardware dealers.

A Necessary Evil

The trade-in allowance is a necessary evil that the industry must make the best of, according to this man who has established himself as an authority on the merchandising of gas appliances throughout the entire San Francisco bay region.

But, unwittingly, the dealer, ever on the lookout for an expansion of his business, has allowed himself to be taken in to the extent that instead of selling the housewife a new stove, he is engaged in a competitive race with his fellow dealers, to buy her old one.

Mrs. Whoever wants to buy a stove. Possibly she has been sold on the idea by seeing manufacturers advertisements in the local papers. Possibly some dealer, wide awake to his sales opportunities has been working on her as a logical prospect. Possibly her old antiquated cooking apparatus has developed so many defects in the past few months that she thinks she had better get it off her hands before it quits in the dramatic fashion of the celebrated One Hoss Shay.

The first dealer she consults offers her $10 for the stove. It will probably bring that much as a second-hand article, certainly it will bring no more. But Mrs. Whoever is too wise to buy from the first dealer. She remembers how her husband once set the automobile dealers to bidding up their trade-in allowance on his used car.

So she consults dealer number two, and maybe number three, and for all we know, she goes out of her way to hunt up Mr. Number Four. And by the time she is through each one has raised the bid a shade — just five dollars or so — and the old stove that may be worth $10 if sold in a hurry, now finds itself traded in for the princely sum of $30 or $35.

A Time-Worn, Inadequate Alibi

"Of course," the dealer may argue, "I gave her more than her stove was worth, but that's all right, there's a big margin on this stuff, and I still make $60 on the transaction."

The $60 on the transaction is distributed in somewhat the following fashion, Mr. Brown points out: The stove cost the dealer around $75.00. A seventy per cent markup brings this to $127.50. From this compute thirty-five per cent of the selling price for overhead, or cost of doing business, namely $43.62. The $75.00 added to $43.62, makes the actual cost of the stove, including overhead, $118.62. With an actual profit of less than ten dollars, if the old stove is sold for just what is allowed on it, the dealer still sees fit to give away an extra five or ten dollars,—and then at the end of the year, voices his bitter disappointment that his stove business hasn't paid.

What is to be done about it? Why can't we take a tip from the automobile dealers? Time was when a persistent shopper could get more for his used car than it would actually cost him on the market. And as a result the used car evil became a bugbear to the automobile trade. But this condition no longer exists. Now there is a regularly issued list of standard trade-in values of all used cars, and this list is pretty generally observed by the dealers. Here and there a shyster, over-anxious to get at the big profits, departs from the scale, but only rarely is this done.

The solution of the used stove problem lies in much the same kind of an arrangement, says Mr. Brown. Of course it is not possible, and it would not be practical, for every make and year of stove to be listed for the protection and guidance of the retailer. But it is possible for the retailers, in their own interests, to eliminate this practise of bidding against each other for the privilege of selling stoves and sacrificing profits.

This Plan Prevents Competition

The plan, as suggested by Mr. Brown, is now in successful operation in one of the cities of Northern California, where up until a year ago, the condition was especially trying. Here a central agency has been formed, the local gas appliance society, and a card index is kept on which are listed all of the dealers and their prospects.

Upon being called to appraise a stove for a trade-in, the dealer calls at the house, appraises the stove and tells the housewife that if she will call in at the store some time within a few days, she will be informed the value of the old appliance as a trade-in. This is important, in the opinion of Mr. Brown, as it enables the dealer to get the customer in the store where he has a better opportunity to close the deal at the same time that he makes his appraisal figure.

But in the meantime, he has called up the central office, informed the secretary the price he has set on the stove, and this information is recorded under the dealers code number. Before any other merchant makes a call, he calls up the secretary and finds out what the stove has been appraised at by his fellow tradesman. Armed with this information he is safe from any suggestion that "Mr. Smith allowed me $15" when as a matter of fact, Mr. Smith was hard pressed and reluctant to give $10 for the time-honored relic.

Nobody is bound by any agreements. The public is always sure of a fair deal. And the dealer, because he is no longer inveigled into giving away part of his legitimate profits, is enabled to give the transaction the care and service that it deserves, with the result that the whole business of merchandising gas appliances is placed on a higher plane.

"Let us stay in the business of selling new stoves," says Mr. Brown, "and we will all see our way clear to more profits and cleaner business."

F. R. BAIN AND WIFE NOW "AT HOME"

Ferdinand R. Bain, president and general manager of the Southern Counties Gas Company, surprised his friends and associates recently when he was married in San Francisco to Mrs. Phillip Fisher, prominent socially in Seattle and the northwest. Following a brief honeymoon the Bains are now at home at beautiful La Lomita, the Jersey stock farm owned by Mr. Bain.

World's Largest Gas-Fired Heating Plant

Nothing But the Latest Automatic Low-Pressure Gas Heating System Would Satisfy the Los Angeles Chamber of Commerce in Equipping Splendid New Home. New Building Has Six and One-Half Acres of Floor Space

By C. W. Grow
Manager New Business Department, Southern California Gas Company

THIRTY-FOUR years ago a "Tenderfoot" came to California, not from choice but from force of circumstances. The late Frank W. Wiggins, the "Tenderfoot," frail of body and panting for breath, found in the salubrious climate of Southern California the elixir that restored him to health.

The grateful Tenderfoot, sensing the great possibilities of this undeveloped western country, allied himself with the Los Angeles Chamber of Commerce and proceeded to tell the world a lot of things about Southern California that sounded visionary at the time. The Tenderfoot proved himself a true prophet and a great leader.

Today the Los Angeles Chamber of Commerce is the greatest organization of its kind in the country and is an effective and dependable spokesman for every section and every industry in a territory six hundred miles long and embracing a population of three million people functioning as one great, modern and prosperous community.

Class "A" Home for Chamber

In the center of this matchless environment of mountains and sea, fertile valleys and shimmery beaches, the Chamber of Commerce has erected a limit height, Class "A" home, fronting on three streets and having a floor space of six and one-half acres.

Characteristic of this organization, when it came to the point of selecting a heating system, it broke away from old traditions of oil fuel boilers and installed a highly modern gas-fired automatic low pressure system—a system so perfect in its refinements that a child can operate it.

Adequate and uniform heat is so essential to the requirements of a large office building that a brief description of this gas-fired plant may not be amiss.

Description of Gas-Fired Plant

Seven boilers of the cast iron sectional type, with 8-inch local steam headers are placed on nine-inch concrete bases. A 14-inch main steam header takes the steam from each of the seven boilers through 7-inch bends.

From the main 14-inch header a 10-inch steam line supplies the direct radiation and a 7-inch line extends to the stacks of vento in the plenum chamber. Each boiler is complete with the required steam trimmings, a gas regulator, snap-acting gas valve and pilots.

The seventh boiler is designed as two separate boilers, one set at 2 lbs. steam pressure for heating the water in a 1200-gallon storage tank, the other set at 10 lbs. to supply the steam to operate steam-jacketed kettles in the kitchen on the seventh floor. This duplex boiler is equipped with all trimmings and an automatic water feed.

Each boiler, including all steam lines and return lines is covered with 85% magnesia covering and painted four coats of white.

Top: View of largest low-pressure automatic gas-fired heating system ever installed.

Bottom: Battery of two No. 50 Westinghouse Meters measuring gas into Chamber of Commerce Building.

Is Largest Gas-Fired Plant

This modern heating plant is unique in that it supplies all of the steam required for heating, cooking and hot water heating in the largest Chamber of Commerce building in this country. In fact, it is the largest gas-fired heating plant that has even been installed anywhere up to this date.

This plant is not the result of an enthusiastic group's appetite for the unique and the startling, but is the result of the progressive, yet sound, judgment of one of the most enterprising groups of American business men. In other words, it is an economically sound utility.

The Los Angeles Chamber of Commerce when considering a heating system for their crowning achievement, searched for the best that the most modern of engineering practices had to offer. They wanted a plant that would be practically automatic, something that was supersensitive to the minute requirements of a California heating load.

Operating Flexibility Assured

Southern California Gas Company engineers designed the present layout which met every requirement. This plant needs the minimum of attention. Its relatively large number of distinct and separate units gives a flexibility of operation which eliminates standby losses, while freedom from smoke and soot is assured.

These business men realized that it is is not what a fuel costs, but what it costs to burn that fuel that matters. They realized that there was more in the book of heating practice than that contained in the introductory paragraph which sings the praise of the heat unit but disregards the nature of the fuel wherein that heat unit resides. Such clarity of analysis inevitably resulted in a gas-fired sectional steam boiler installation.

Cooking School Proves *A-1* Sales Device

Forrest's Stove Works, Los Angeles, Advertises the Gas Appliance Through Cooking Demonstrations Given in Four Appliance Stores. Propaganda Is Effective, Says Owner

By Herbert Elnif

"GOOD morning, Mrs. Oldstove. I'm Mr. Evans of the Forrest's Stove Works. You were down at our Huntington Park branch store last Friday to visit the cooking school."

"Oh! yes, indeed, Mr. Evans. Won't you come in? Yes, I noticed an ad in the paper telling about the cooking demonstration, so I went. I'll be there next week, too, with my neighbor, Mrs. Woodrange. She won't believe that a whole meal can be cooked in a fourteen-inch oven, so I've promised to take her to the next demonstration."

Mr. Evans, having made a graceful entry, now proceeds to "do his stuff," and in his capacity of estimator for the Forrest's Stove Works, Los Angeles, soon suggests a visit to the kitchen where he knows a worn-out gas range is fairly aching to yield its place to a brand new appliance.

Something New Arrives

When Fred Forrest, owner of the Forrest's Stove Works, introduced his cooking schools to the Los Angeles public, on August 26, 1924, there was considerable comment and some scoffing. "Just another week of demonstration, I guess," expresses the first reception of the innovation.

But as week after week went by and every week found a demonstrator on the job in each of Mr. Forrest's four stores it became evident that something new in the merchandising of gas appliances had come to be—and to stay.

After a few months of successful, sales-producing operation of the cooking schools the popular question ceased to be "What is it?" and became "How does he do it?" and sometimes a "Does it pay?" is to be heard.

Produces Sales, Says Owner

Fred Forrest, when asked the last question by a *Western Gas* representative, characterized his cooking school feature as "the most profitable sales propaganda that we have ever experienced—productive of many direct sales, both at the time of the school 'session' and afterward through follow-up work."

There are several stores in the Forrest chain, one on South Vermont Avenue, a second on Western Avenue, a third on Whittier Boulevard, and a fourth at Huntington Park. In each of these stores at a regular time once a week an experienced demonstrator appears before a group of women, ranging in number from seventy-five to one hundred, to describe the operation of a gas oven.

An Entire Meal is Prepared

The women guests of the store sit in a specially outfitted room, on benches or chairs arranged in front of two gas ranges equipped with the oven in question. In one oven reposes a tasty pie, perhaps a number of pastries. In the other are simmering the various essentials to a complete meal—the menu may include vegetable soup, roast beef, baked potatoes (creamed), buttered onions, fruit melange—all in a 14-inch oven. On a table nearby sets several pans of about-to-be-baked biscuits, ready to be hurried into the same oven while the *piece de resistance* and trimmings are being passed around *en sample* among the guests. Small paper plates are provided for this latter purpose.

A "Lottery" Adds Interest

While the women are exclaiming over the economy of time with which luscious effects are achieved in the small oven, Mrs. Alice Curtis, the demonstrator, interrupts to explain that a small lottery is about to transpire (on the quiet, you understand; don't tell the authorities). It develops that the brown, appetite-provoking pie in the upper part of the oven in which the pastries are cooking is to be carried home by some lucky woman of those present. Or it may be a triple-tier, frosting-decked cake. "So fill out these numbered cards I am passing around, and the lucky number will be made known after the shake-up when the cards are collected."

In this wise a short questionnaire of data much needed by an appliance store's sales department is filled out. The card calls for name, address and type of stove used at present. A blank is also provided in which the guest is asked to state whether she is interested in the type of stove being demonstrated.

Schools Draw Big Attendance

"Pies Given Away Free at Every Demonstration" makes an intriguing advertising caption, and one which Mr.

(Continued on Page 32)

Oven packed for full-meal demonstration

Cooking school in session

A Water Heater you will take pride in selling

This quality product is a genuine business-getter. Every installation means additional sales, for it makes a life-long friend of every customer and they, in turn, recommend it to their friends. Gives an abundant supply of piping hot water any minute of the day or night. The instant the tap is turned hot water begins to flow at the same rapid speed as the cold water.

BEACON
Automatic Storage GAS WATER HEATER
"With the Enduring Heart of Brass"

This heater is backed by twenty-five years experience in the water heater business and embodies the latest developments in water heater construction. Made in four distinct models and a complete range of sizes.

All Beacon Automatic Models Have These Advantages

Brass Heating Element
Has six times the heat conductivity of iron. Stronger and more enduring than copper. Keeps water clean. Heats water quicker and with less cost for gas.

Substantial Construction
The Beacon is a heavy duty appliance. High grade materials are used throughout. The boiler is made of specially heavy gauge galvanized iron, and all seams are both riveted and welded. The patented center flue is made of seamless drawn boiler tube—not ordinary pipe. Maximum amount of heating surface is provided—hence less gas is consumed to obtain a given quantity of hot water.

Efficient Burner
Specially constructed to secure greatest efficiency. Cannot back fire.

Inner Burner
The pilot light of the Beacon Water Heater, also acts as a burner. It heats the water and maintains the temperature. Thus there is no gas consumed solely to light the main burner. The inner burner cannot clog nor blow out.

Draft Regulator
This patented feature makes the Beacon absolutely safe. It automatically operates a safety check valve against down drafts and therefore prevents any possibility of extinguishing the pilot light.

Maintains Water Pressure
The Beacon Water Heater gives a steady, even flow of hot water to the bath, shower, laundry tray or sink. Pressure is same as for cold water.

Guarantee
One year from date of installation.

If the Beacon Water Heater is not sold in your locality, you may secure a valuable franchise by writing now

BEACON
LIGHT COMPANY

Everything
Gas and Electric

716 South Hill St
Phone TR 3841

Los Angeles, California

Gas Appliance Society Is Unique Sales Organization

Promotes Sale of Better Class of Gas Appliances—Popularizes Use of Gas as Fuel—Educates Public in Proper Use of Appliances

By G. P. EGLESTON
President, Gas Appliance Society of California

GAS APPLIANCE SOCIETY

AN infant in the gas appliance field has proved to be a prodigy. The Gas appliance Society of California, which saw the light of day at San Francisco in 1921, is that precocious infant. The Society aspires to serve as a "creative sales organization" of the gas industry, selling the idea of gas to the public, promoting the sale of more and better gas appliances, and welding all links in the gas appliance chain—from manufacturer to consumer—more firmly together. Its aspirations have been backed by a highly effectual kind of accomplishment.—Editor.

IF the statement were made in any portion of the United States, other than California and Portland, Oregon, that the Retailer, the Manufacturer, and the Gas Company, were in partnership, the immediate response would be that such a condition could not exist. But the condition does exist, and has been found not only eminently practicable but very profitable, from a standpoint of education of the consumer of gas.

The responsibility for this condition rests in a rather unique organization known as the Gas Appliance Society of California. That the reader may know what the Gas Appliance Society of California is, its objects, and its activities, I will quote two paragraphs from the By-Laws and Constitution. First, what it is:

What the Society Is

"The Gas Appliance Society is a creative sales organization of the entire gas industry. It includes manufacturers of gas equipment, distributors, jobbers, retail dealers, and gas companies."

Its objects:

"Its objects are the promotion and advancement of the sales of all gas-consuming appliances, and the use of gas generally; to establish a spirit of fraternity between its members by social intercourse and the exchange of information; the extension of more cordial and friendly relations between manufacturers, jobbers, distributors, retailers, gas companies and consumers, to the end that every home will be fully equipped with modern gas appliances."

Twenty-five Units in Society

The Society is composed of units, each with its chairman and board of directors, all working on a comprehensive plan as outlined by a State Advisory Committee. The first unit was organized in San Francisco, in 1921, and the idea has gradually expanded until at present there are some twenty-five distinct units, each working towards the common end of placing more and better appliances in the home.

The work of the society has been so successful that in portions of the state the sale of appliances has been turned over to the retailers, and while one might think, from the discontinuance of the selling of appliances by the gas companies, that they had relaxed in their sales efforts, yet this is not the case.

Gas Companies Assist in Sales

On the other hand, the sales departments of the gas companies have been maintained and in almost every case have been increased and strengthened with better men. The gas companies carry on sales advertising, and maintain salesmen in the field, selling the gas idea and assisting the dealers in the selling of appliances.

It is a partnership arrangement which is productive of great good, for by eliminating the factor of unfair competition, selling the appliance for less than distributing costs, the gas companies have encouraged the dealers to seek and merchandise a much better appliance than was the case when ruinous competition prevailed.

The Function of the Society

In the territory where the society is operating, the dealers are endeavoring to merchandise a class of appliance that will give service, lasting service. They are endeavoring to educate the public to the proper use of gas appliances, and as to the desirability of gas as fuel.

The association is a baby organization, but the success of its efforts has been so great that the directors are in constant communication with communities outside of their jurisdiction, which are requesting information as to the operation of the Society, the results of its efforts, and how the same idea can be applied to their communities.

GAS AND OIL USE COMBINED TO HEAT HOMES

Combined use of gas and oil for heating homes will be made possible soon, it was announced in the annual report of the United Gas Improvement Company. Studies being made by the research department point to joint use of gas carrying the uniform load and oil carrying the peak loads. A burner has been devised, it was said, which burns either gas or fuel oil. By an automatic thermostat arrangement the two are used alternately as the demands of the weather require.

Time your vacation to bring you to Portland on August 17, for the opening session.

GAS APPLIANCE SOCIETY ORGANIZES NEW UNITS

Four new units recently organized by John Dignan, pioneer of the Gas Appliance Society, indicate a growing reception of the "more and better appliances" idea among California dealers. The new units are at Visalia, Santa Maria, San Luis Obispo, and Merced. Merchants from Hanford, Tulare and Exeter meet with the Visalia unit, which is officered by Mr. Wood, president, and Frank Johns, secretary. Bert Jones and Chas. W. Hatch are president and secretary, respectively, of the Santa Maria organization, Chris L. Johnston and Allen T. Fesler head the San Luis unit, and Mr. R. Casad is secretary of the appliance society branch at Merced.

INDUSTRIAL FUEL SUPPLY CO. HAS DOMINGUEZ PLANT

Work on the Industrial Fuel Supply Company's new compression plant in the southeast part of the Dominguez field has now been completed, the finished plant being understood to have cost in the neighborhood of $250,000. The new compression unit, which is located on the United Oil Company's lease, is reported to be handling 1,500,000 cubic feet of dry gas daily.

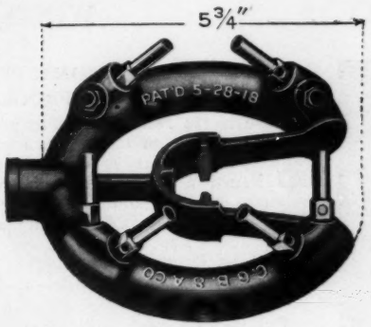
The gas comes from the United Henderson wells and is treated by the Long Beach Gasoline and Refining Company for the extraction of gasoline, being then turned over to the Industrial Fuel Supply Company at its new plant.

PACIFIC METER WORKS ERECTS NEW $35,000 HOME

A two-story office and light manufacturing building has been built by the Pacific Meter Works of the American Meter Company at 2118 Atlantic Street, Los Angeles, Calif. The dimensions of the new structure are 50 by 139 feet, and its cost was approximately $35,000.

The building, which is of reinforced concrete with composition roof, was planned by Roy W. Fedin. M. K. Miller, Jr., is Los Angeles manager of the Pacific Meter Works.

Hotel Multnomah—Portland—August 17-20—Annual Convention, Pacific Coast Gas Association.



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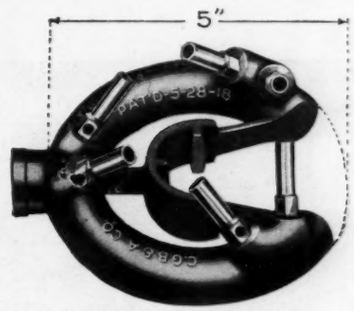

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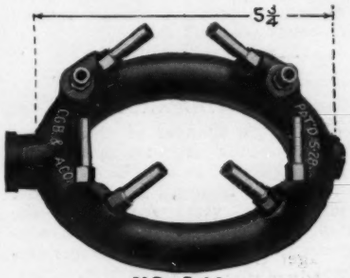

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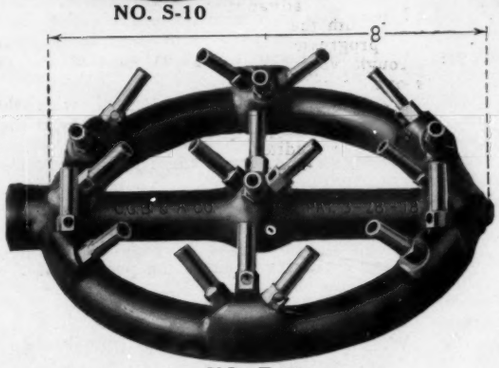

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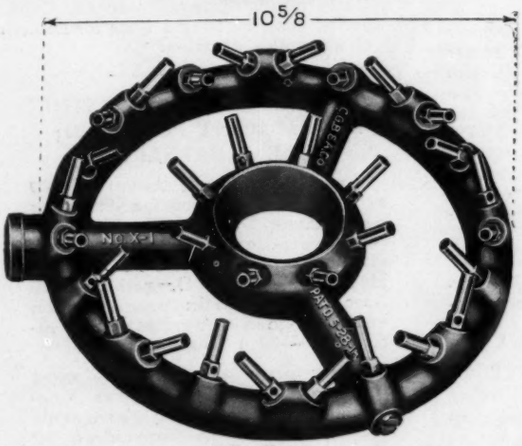

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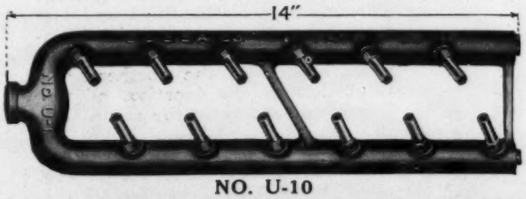


NO. U-10

No heater is better than its burner and without an efficient burner no appliance stands the test—that's why the leading Manufacturers of Hot Water Heaters, Gas Furnaces, Boilers and Heating Appliances are adopting as Standard

BARBER Patented GAS BURNERS

(Made in Numerous Styles and Sizes)

Ten sound reasons why they are far the most perfect on the market.

1. *Will reduce gas bills 25 to 40%.*
2. *Render the pilot light unnecessary.*
3. *Can be controlled with any good thermostat.*
4. *Will not back-fire, or deposit carbon—upon any gas pressure.*
5. *Will develop a flame temperature of 1960 Fahr. with 500 Btu. gas.*
6. *Require no adjustment, regardless of pressure or quality of gas.*
7. *Jets or orifices cannot become corroded or clogged, or affected by condensation.*
8. *Will produce a perfect orange-green flame with Artificial, Natural or Mixed Gas.*
9. *Are the result of over six years' careful development by Gas Burner Specialists.*
10. *Have been adopted by leading Heater and Gas Appliance Manufacturers.*

Barber Patented Jet Burners are ideal for Hot Water Heaters, Small Steam Boilers, Furnaces, Liquids and Metal Pots, Candy and Doughnut Stoves, and Similar Appliances.

Why not write us today and let us assist in solving your gas burner problems. You will not be obligated in the least.

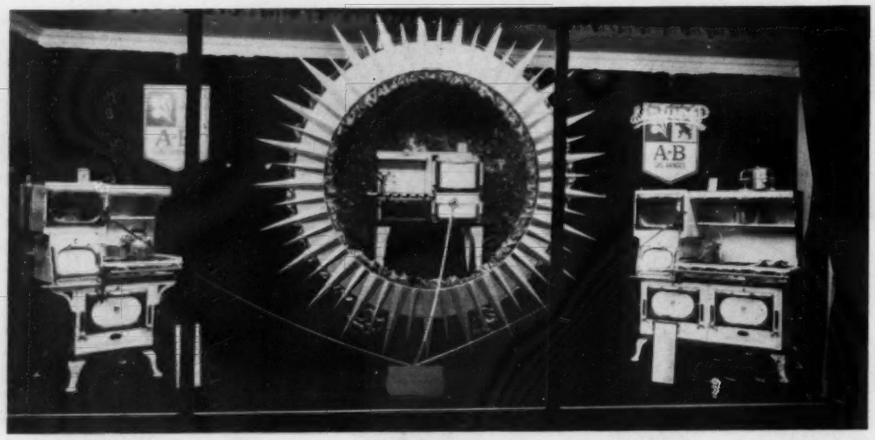
Write for our new catalogue and discounts.

THE T. G. ARROWSMITH CO.
135 New Montgomery Street
SAN FRANCISCO, CAL. Pacific Coast Distributors

The CLEVELAND GAS BURNER & APPLIANCE CO.

Burner Specialists

3702-04 Superior Avenue, Cleveland, Ohio



This display was a result-producer—so Barker Bros., Los Angeles, used it TWICE to good advantage.

"Sunburst" Creates Strong Display

Gas Range Is Featured in Novel Setting—Detailed Description of Effective Window Is Given

By PAUL LUPO, *Barker Bros., Inc., Los Angeles*

TO THE merchant or display manager who is ever in search for new ideas in striking window displays, the illustration above suggests a handling that is powerful in both attention and prestige value.

Splendor is given this otherwise simple display by the sparkling sunburst centerpiece in the background, into which has been set an all-white A-B Gas Range. Concealed orange and vermillion electric bulbs back of the setting served to produce the brilliancy of an actual sunburst glow of gold, red and orange, which made the white range fairly sparkle with its immaculate beauty.

Detailed Description of Display

The entire background of the window was of black velvet curtains hung from picture moulding, and the floor was covered in black felt. At each end of the background were hung two A-B crests or shields designed on veneer panel boards and in colors to correspond with dealers' emblem on stove, 34x30". These were in flat oil colors, in order not to give a glossy glare. The center piece of the attraction, called the Sunburst, was of a wood circular frame 10" wide and 6'-8" in diameter, with triple-shaped blades placed one next to the other completely around circle. The widest end of the blade was five inches and tapered to a fine point, and each was twenty-four inches long, making the entire measurement of the circle frame ten feet overall, which was the full height of the window. Around the frame, at the back, were concealed lights of 40 watt power at intervals of eighteen inches. The globes were in colors of orange and vermillion, which gave the brilliancy of an actual sunburst of gold, red and orange.

The frame and blades were finished in Roman gold color bronze, which made it very rich in contrast to the black background which set it off in clear-cut detail.

Back of the frame was a niche constructed of wood in concave fashion and covered with two-inch mesh wire, so-called chicken pen wire. This niche was made with a depth of three feet and the full height of six feet to allow setting stove on a platform and to elevate it to the center position of the sunburst frame.

The rear of the wire mesh was covered with gold sateen, to give background and color value to gold and orange metaline cloth which was puffed in the wire mesh. Because the metaline is very transparent, a heavier material is needed back of it to give desired color.

"The Three Aristocrats"

At each side of the window, two other A-B stoves were used, the one in the center being featured at $75.00, $5.00 down. Three narrow gold ribbons, with bows attached, were drawn to the center of the floor from each of the stoves and tied to a gold card with black letters in the shape of a shield, reading: "The Three Aristocrats."

The simplicity of the display affords a flexibility that makes it available for windows of practically any size.

August 17-20 is fast approaching. Will you be at Portland when the delegates gather?

IS SANTA BARBARA SUPERINTENDENT FOR SOUTHERN COUNTIES

C. G. Rutledge, Santa Barbara district superintendent for the Southern Counties Gas Company, operates the northern division of the company's properties. He has been with the local company since 1919 and before that date was with the predecessor organization.

N. L. MORSE SPEAKS BEFORE ADVERTISING CLUB

N. L. Morse, purchasing agent of the Southern California Gas Company, and dean of the purchasing agents of Southern California, addressed the Los Angeles Advertising Club at its luncheon at the Hotel Biltmore on Tuesday, April 28. Mr. Morse is an interesting speaker, and has frequent calls upon him to take active part in telling various organizations about the theory and practice of purchasing. He has an able assistant in Mr. Norman Lees.

GAS ASSOCIATIONS PUBLISH REVIEW OF 1924 PROCEEDINGS

Two books recently off the press will interest members of the western gas industry. The Natural Gas Association of America has issued a full review of its nineteenth annual meeting, held at Cleveland, Ohio, May 19-22, 1924, and the Pacific Coast Gas Association has also published a complete record of its thirty-first annual convention, in session at Santa Barbara, Calif., September 15-18, 1924.

Full texts of all addresses delivered at the conventions, together with discussion occurring during the sessions are contained in the two books referred to.

CHANGES IN PERSONNEL OF ACCOUNTING DEPARTMENT

March 1st saw a number of changes in the personnel of the Accounting Department of Los Angeles Gas and Electric Corporation. O. L. Moore, for the past seven and one-half years Auditor of the Corporation, was transferred to the newly-created position of Manager Customers Department—a distinct advancement. Mr. Moore has been with the organization since 1904 and has progressed deservedly since that time through various positions to his present new one.

E. N. Simmons, who started with the Corporation as a messenger in 1909, succeeds Mr. Moore as Auditor. He has previously to this served three years as Assistant Auditor.

C. D. Cushman, for the past two and one-half years Chief Clerk to Comptroller and Auditor, and in the Corporation's employ since 1911, advanced to the position of Assistant to Auditor.

W. M. THOMPSON BACK FROM EAST

Mr. W. M. Thompson of the Reliance Manufacturing Company, Pasadena, Calif., is expected home on May 1 from an Eastern trip of a month's duration.

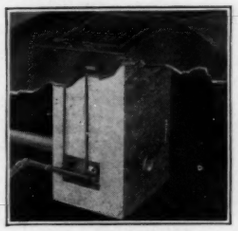
COAST GAS ASSN. CONVENTION AUG. 17-20, AT PORTLAND; JUNE 5 GATHERING

Announcement of August 17-20 as the definite convention dates has been made by the Pacific Coast Gas Association. Convention headquarters will be at the Multnomah Hotel, Portland, Oregon. The Association bulletin predicts good weather, good program, good attendance—also good golfing.

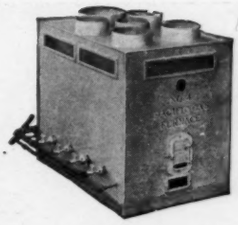
What promises to be the most important Pacific Coast Gas Association meeting of the year, aside from the annual convention at Portland in August, will take place Friday, June 5, in Oakland, Calif. This meeting is the third and last sectional gathering of the Association, and will take the place of the usual session of the northern section, due to the location of this year's convention in the north.

TO REPRESENT ESTATE STOVE COMPANY IN CALIFORNIA

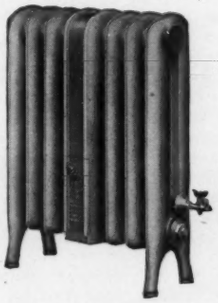
The Estate Stove Company announces that Mr. Jack P. Davidson has recently been made their representative in California. The San Francisco offices of the company have recently been moved to the Furniture Exchange Building, 180 New Montgomery street.



Pacific Floor Furnaces



Pacific Basement Hot-Air Units



Pacific Pressed Metal Radiators

Pacific Gas-Steam Radiators

Recognized as the

Leading Gas Heating Appliances

on the Pacific Coast

Interested in **selling** gas heating appliances? Then you'll realize Pacific appliances must have wonderful selling points to maintain sales leadership for so many years against such strong competition.

Quality is the strongest argument in favor of Pacific appliances. A cross section view of other radiators will show you why Pacific gets a higher price. Good sound materials compose each Pacific unit. They are built to give years of satisfactory service.

Look at These Superiorities

The Bunsen-type burner! It gives complete combustion.

And—the air circulation system! Each of the Pacific models has a greater, better air circulation system than you'll find in any other heaters.

You can claim—safely—that Pacific heaters use 25% less gas than others.

Pacific Will Pay You Big Profits

This is enough to show you that it's easier to sell Pacific Heating Appliances. If you'll write—or indicate your interest in becoming a dealer—we'll make you a real proposition which will enable you to make real money!

Pacific Gas Radiator

Gas Heating **Company** *Headquarters*

General Offices, 1740 W. Washington St., Los Angeles.

Phone BEacon 2190 **Branches throughout the West**

Catalogs mailed free on request

The latest "ensemble" wear for company service men.

New Garb *for* Service Employees

GAS users of Sacramento have a constant and vivid reminder of the source of their gas in the new uniforms with which the service men of the Sacramento Gas Company have recently been outfitted.

In addition to being a strong bid for popular attention the new uniforms are good in themselves, made of an excellent quality of khaki overall material. The legend "SACRAMENTO GAS COMPANY" appears in red letters on the back of the recently-adopted garb, as the accompanying illustration shows. Caps of the same material bear the letters "S. G. C." in red on the bands in front.

Service men in the gas industry should look presentable, and in adopting the new uniforms the Sacramento Gas Company engaged to keep them laundered for the men. The employees buy the uniforms in the first place.

At the Pacific Coast Gas Association convention last year the suggestion that gas companies adopt some simple uniform for service men came up for discussion. The Sacramento Gas Company claims credit for being first in this field among California companies, and suspects that it is the only company with uniformed service men on the entire Coast. (If there is any argument on this point WESTERN GAS will be glad to air it.—Ed.)

WESTERN GAS will have a representative at the Portland P. C. G. A. Convention. Will he meet you there?

A NOSE FOR NEWS

Clyde H. Potter, Southern Counties publicity man puts it this way: "Give us figures," say the engineers; "Give us dividends," say the stockholders; "Give us service," say the public, and "Give us news," say the newspaper boys.

"And not the least important of the four is the latter."

BARTLETT HAYWARD COMPANY ERECTS GAS HOLDER IN L. A.

Construction has begun on a mammoth gas storage holder of 15,000,000 cubic feet capacity at 723-49 Docommun Street, Los Angeles, for the Los Angeles Gas and Electric Corp. The Bartlett-Hayward Co., to whom the contract has been let, has already prepared working drawings. The holder is to be 333 feet in diameter and 378 feet high, of a new type recently developed in Europe. It is the third of this type to be constructed in this country and will be the largest of the three. It is understood that the cost of the holder will be approximately $700,000.

STARTS STOCK CAMPAIGN

W. S. McFarland, secretary of the Southern Counties Gas Company, has visited all of the districts of the company in the interest of the new preferred stock campaign. Mr. McFarland addressed the employees of the company at the district offices, starting the security campaign rolling.

TO SPEND MONTH IN ST. LOUIS

Karl Jorgensen, efficiency engineer for the Southern California Gas Company for the last two years, has just left for St. Louis where he will spend a month supervising the efficiency work he is carrying on for the Laclede Gas Light Company. Mr. Jorgensen returns to Los Angeles, his home, the first of June. In his absence, his newly-appointed assistant, James P. Case will superintend the efficiency work being carried on by the Southern California Gas Company.

COLUMBIA CORRESPONDENCE COURSE IN GAS ENGINEERING

A course in gas manufacture, distribution and utilization to be given under the auspices of the American Gas Association will soon be available at Columbia University. The course of twenty-four monthly lessons will open in September, the cost amounting to about $60, including texts. The lessons are being outlined by an advisory committee, of which W. S. Yard of the Pacific Gas and Electric Company is a member.

FIELD WORK FOR ENGINEERS

M. R. Thompson, engineer, A. F. Bridge, executive engineer, F. H. Bivens, general agent, N. R. McKee, purchasing agent, Charles L. Ferry, power engineer, for the Southern Counties Gas Company and others from the general offices of the company, have been spending a considerable part of their time on the Ventura-Los Angeles 84-mile natural gas line.

Time: August 17-20—Place: Portland, Ore.—Occasion: Pacific Coast Gas Association Convention.

Hold Convention for Natural Gasoline Manufacturers

REPRESENTATIVES of the natural gasoline manufacturing industry assembled at the Mayo Hotel, Tulsa, Oklahoma, at ten o'clock of Wednesday, April 22, for the opening session of the two-day convention of the Association of Natural Gasoline Manufacturers. Gathering from all quarters of the western and mid-continent fields the association members listened to a series of addresses and took part in a number of discussions, both devoted largely to plant operating problems.

A paper entitled "The California Outlook" was presented at the Thursday afternoon session of the convention by K. L. Reynolds, assistant general manager of the Pacific Gasoline Company, Los Angeles, Calif. H. J. Bauer, president of the Pacific Gasoline Company, also attended the convention. The text of the paper presented by Mr. Reynolds is given in this issue of WESTERN GAS.

The following addresses, most of which receded general discussions on the same topics, made up the convention program:

Wednesday, April 22

10:00—Address of Welcome, F. L. Chase, operating manager, Lone Star Gas Co., Dallas, Texas.

Annual Address: D. E. Buchanan, President Association, Tulsa.

Fire Prevention: H. L. Shoemaker, assistant chief engineer, Standard Oil Co. of New Jersey.

Afternoon, 2:00—"Absorption Oil": A. F. Maxon, plant engineer, Sun Co., Tulsa.

"Treating": W. G. Hiatt, research engineer, Phillips Petroleum Co., Bartlesville, Oklahoma.

Thursday, April 23

10:00—"The California Outlook": Kenyon L. Reynolds, assistant general manager, Pacific Gasoline Company, Los Angeles, California.

2:00—"Water Supply and Water Treatment": Emby Kaye, general superintendent, gasoline department, Skelly Oil Co., Tulsa.

"Plant Lubrication": C. A. Fitzgerald, assistant district manager, Sun Co., Tulsa.

"Residue Gas": L. F. Boyer, vice president and general manager, Tidal Refining Co., Tulsa.

The annual banquet of the Association was held at the Mayo Hotel on Thursday night, April 23.

ASSOCIATION GATHERING FOR NATURAL GAS MEN

More than a thousand members of the Natural Gas Association of America and the Natural Gas Supply Men are expected to meet at Atlantic City, N. J., May 18, 19, 20, and 21 for the joint conventions of the two organizations.

The officers of the Natural Gas Association of America are: President, John B. Corrin, Vice-President and General Manager of the Hope Natural Gas Company of Pittsburgh; Vice-President, A. W. Leonard, General Manager of the Oklahoma Natural Gas Company, Tulsa, Okla.; Secretary-Treasurer, William B. Way of Pittsburgh. Fred A. Miller, of the Dresser Manufacturing Company, Bradford, Pa., is president of the Gas Supply Men's organization.

W. E. Robbins, auditor for the Southern California Gas Company, has recently added "Senior" to his name. W. E. Robbins, Jr. is now a healthy youngster less than a month old.

THE T. G. ARROWSMITH CO.

The Sexton Closed Hot Top Patented Hotel Gas Range

Illustrations show a single unit and a battery of Sexton Ranges—in the Hotel St. Francis, San Francisco.

The new patented center gas control on this range is beginning to revolutionize gas cooking. It is so simple to operate that any chef can handle it, even if he has been accustomed to coal burning ranges.

The Sexton Control eliminates a number of small gas cocks, and it has an indicator, which shows the number of burners on or off. It does not simply turn the gas down, but turns out every other burner with a half turn of the lever.

THE S. B. SEXTON STOVE & MFG. CO.

T. G. Arrowsmith Co., Pacific Coast Representatives

135 New Montgomery Street
San Francisco

Cooking School Proves *to* be *an A-1* Sales Device

(Continued from Page 24)

Forrest has capitalized. Most of us respond to the something-for-nothing appeal when the something is genuine—and not a few of us like pie, so the net result is a good attendance at every cooking exhibit conducted. To be sure, the women may be drawn by a desire to get a new angle on the chief domestic art, or to "eye-witness" the working of a new-type cooking appliance, rather than to get a free pie. But, however that may be, they come—nearly 400 of them every week—to the four stores of Fred Forrest.

Local newspapers are freely used in advertising the cooking exhibits, both large dailies and small, neighborhood papers circulating in the locale of the exhibiting store. Other advertising mediums are employed, too; the stores themselves, decked with bunting signs, tell the world the essential facts in terms and colors emphatic, and bunting signs are used on the delivery and service cars of the stores. The advertising is continuous, not spasmodic, and judged by attendance at the schools, it is productive of results.

Live Prospects Brought to Light

So much may be said in description of the cooking exhibits once a week in each of the Forrest stores. These exhibits, which constitute the curriculum of Mr. Forrest's "College of Cuisine," have contributed in a very marked manner to bringing numbers of live prospects into his stores. A red-hot field for follow-up work is built up in the cards filled out during the exhibit, and many a deal is closed, following the school's dismissal, when the departing guests stop to inspect the appliances displayed on the floor.

School Has "Extension Course"

Another demonstration feature, which supplements the store cooking exhibits, and reaches possible appliance buyers who would not be drawn in to the store itself, is found in what might be called the "Extension Course" conducted by the Forrest's Stove Works. Mrs. Nettie Taff, an experienced demonstrator, conducts a travelling bureau of demonstration, with daily appointments to appear in clubs, churches, lodges, hotels, sometimes in homes, giving an educational cooking demonstration and using the oven for which the Forrest's Stove Works is Los Angeles distributor. With her, wherever she demonstrates, go two of these ovens, her demonstration being similar to the one given in the stores.

Mrs. Taff's time is scheduled from three to six weeks in advance, which conveys some idea of the kind of reception the public has for this type of dealer advertising—when it is properly conducted.

Follow-up work on the women reached by the above field demonstrating is done by Mrs. Taff in her own home, where cooking exhibits are arranged from time to time.

Exhibit at Chamber of Commerce

Still another demonstrational field in which Mr. Forrest is pioneering is seen in his recently-instituted feature at the Industrial Exhibit of the Los Angeles Chamber of Commerce, in the Chamber's new home.

The Chamber of Commerce, doing its able best to interest tourist-visitors in permanent home-making in Los Angeles, has arranged a motion picture entertainment on the "Wonders of California." The beauty of mountain, stream and shore is backed with views of industrial and agricultural enterprise, all for the enlightenment of the numbers of visitors that seek information or advice at the Chamber.

Free Biscuits For Tourists

Visitors to the Chamber of Commerce are often in the throes of home-making, which involves installing cooking appliances. This may explain the free biscuits and cups of coffee dispensed from the Forrest's Stove Works cooking exhibit seen at the entrance to the "movie." Needless to say, the biscuits are credits to the name and are baked in the same 14-inch oven used in the other demonstrations. This cooking exhibit is a continuous performance, six-day feature, also a breeder of sales, according to Mr. Forrest.

"But isn't all this demonstration business pretty expensive?" the interested or perhaps skeptical reader asks. The writer asked that one, too, and the answer is: "Not as expensive as might be imagined—but profits justify any expense."

Food Cost is Nominal

One item of cost, the food used in the exhibition, is only nominal, except for purchase of fresh foods. Staples, such as flour, are gladly donated by mills or factories, the donors feeling well repaid in the demonstrator's mention of the brand being used.

The cost of this direct-to-prospect advertising is far below its demonstrated drawing power, according to Mr. Forrest. Its use as described above is keeping two appraisers occupied in making follow-up calls. These appraisers work out of the main store, on Vermont Avenue ,and cover the follow-up field for all of the branches.

Asked if he used his unusually live list of appliance users for a mail campaign, Mr. Forrest gave a decided negative. "The direct touch is worth a hundred letters or house-organ broadsides to us—and we can go see a prospect in half the time we can get a letter to her, anyway."

Cooking School is Selective

In analyzing the merits of his demonstrational program — which, by the way, is the most extensive thing of its kind in the California gas appliance merchandising field — Mr. Forrest points out the following:

The plan is selective; that is, it brings into the store those who are interested in the cooking appliance; the same can be said of the travelling demonstration, while the Chamber of Commerce exhibit is aimed at the prospective homemaker who is just moving to Los Angeles.

The demonstration as here conducted features the appliance. Home demonstrations do not always permit of this, but every Forrest demonstration is made in a Forrest-distributed oven.

It Brings Results

The volume of business and the territorial diffusion of sales accompanying the operation of four stores has made it possible to check in a general way the effectiveness of the cooking school plan of digging up prospects. Mr. Forrest states that each of the branch stores is reporting continual reactions from the exhibits, and the salesmen note a decided improvement in the character of their reception, when chasing down leads that have developed at the schools.

C. B. BABCOCK ON ANNUAL TRIP EAST

C. B. Babcock, president of the C. B. Babcock Company, San Francisco, left San Francisco April 1, on his yearly trip East. He plans to return about the middle of June. Among the plants he will visit while East are those of the General Gas Light Co., of Kalamazoo, Michigan; the Geo. D. Roper Corporation of Rockford, Illinois; and the Safety Gas Main Stopper Co. of Brooklyn, New York.

* * *

NEW PLANT HANDLING GAS AT TAFT

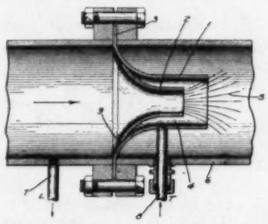
New gas production in Section 19-G and several adjoining sections of the Taft fields is being taken care of by a new plant owned by the Pacific Gasoline Company, Los Angeles. Gas is being turned over to the new plant from the Pacific Oil Company, the Balboa Oil Company, and the Midland Oil Company properties.

* * *

Summer—northern coast breezes—golf—and the P. C. G. A. Convention at Portland, August 17-20. What could be sweeter?

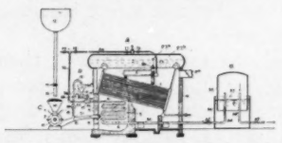
THIS MONTH'S PATENTS PERTAINING TO THE INDUSTRY

1,532,035. FLOW NOZZLE FOR USE WITH FLOW METERS AND THE LIKE. CHARLES F BULLOCK, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Aug. 22, 1923. Serial No. 658,845. 3 Claims. (Cl. 73—167.)



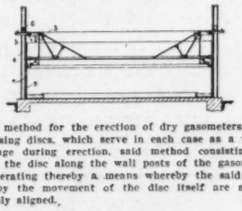
1. A flow nozzle comprising two spaced concentric tubes having curved admission ends which merge into each other, the discharge end of the outer tube projecting a definite distance beyond the end of the discharge end of the inner tube.

1,530,281. MANUFACTURE OF GAS. JOHN LESTER MURRIE, Yonkers, N. Y. Filed July 26, 1923. Serial No. 654,042. 2 Claims. (Cl. 48—202.)



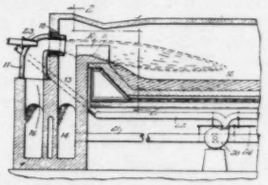
1. The process of forming a gas of high B. t. u. value direct from solid carbonaceous material which comprises finely pulverizing the material, mixing it with superheated steam, and exposing the mixture to a high temperature in a coil whose volume gradually increases from end to end.

1,528,880. METHOD AND ARRANGEMENT FOR THE ERECTION OF DRY GASOMETERS. KONRAD JAGSCHITZ, Mainz, Germany, assignor to Maschinenfabrik Augsburg-Nuernberg A. G., Nuremberg, Bavaria, Germany, a Corporation of Germany. Filed Dec. 26, 1923. Serial No. 682,842. 6 Claims. (Cl. 189—1.)



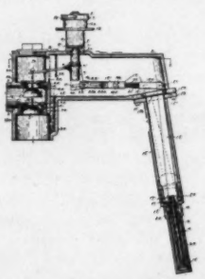
1. A method for the erection of dry gasometers having closing discs, which serve in each case as a working stage during erection, said method consisting in raising the disc along the wall posts of the gasometer and operating thereby a means whereby the said wall posts by the movement of the disc itself are simultaneously aligned.

1,531,678. METALLURGICAL FURNACE. WILLIAM MILLWARD, Pittsburgh, Pa. Filed July 31, 1922. Serial No. 578,585. 21 Claims. (Cl. 263—15.)



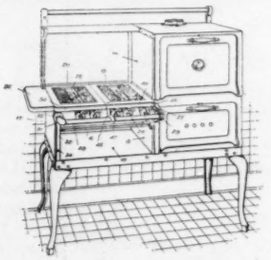
1. In an open hearth regenerative furnace, the combination of a block having sides and bottom, a gas nozzle, so arranged as to cause the flame from the nozzle to impinge the sides and bottom of the intaking opening of said block.

1,530,850. THERMOSTATIC GOVERNOR. HOWARD W. PARTLOW, Utica, N. Y. Filed Oct. 29, 1924. Serial No. 746,611. 8 Claims. (Cl. 236—102.)



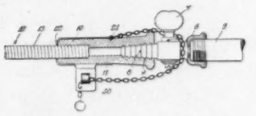
1. A gas governor comprising a hollow body adapted to be charged with gas, a balanced-valve for controlling the outflow of the gas from the body, a bell-crank for operating said valve, an extensible link for operating said bell-crank, said link being in two parts, a spring interposed between said parts normally tending to extend the parts, a lever rockable in a vertical plane for reciprocating said link, a hollow thermostat adapted to be submerged in a medium to be heated, and a rod for operating said lever, said rod being disposed axially in the thermostat adapted to be moved away from the body by the expansion of the thermostat, said rod adapted to be moved towards the body by the opening movement of the valve.

1,530,602. GAS RANGE OR COOKING STOVE. HENRY LANGE, Quincy, Ill. Filed Aug. 16, 1924. Serial No. 732,492. 11 Claims. (Cl. 126—39.)



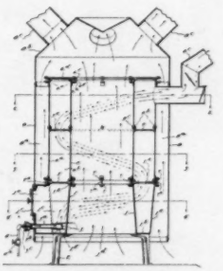
1. In a gas cooking stove, a burner box having an open front, a gas manifold pipe secured to said box and extending across the front of the box, said pipe serving to brace the box, and a cooking top supported at its rear edge by the box and supported at its front edge by said pipe.

1,529,793. GAS-PIPE SAFETY APPLIANCE. THOMAS W. JARDINE and JOHN J. QUINN, Englewood, N. J. Filed May 9, 1923. Serial No. 637,712. 4 Claims. (Cl. 285—82.)



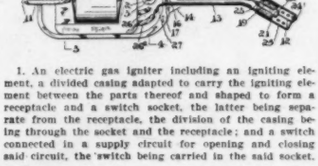
1. A device of the character described comprising a split sleeve having adjoining edges terminating in wings, one of said wings being provided with an opening, the other of said wings being provided with a tongue adapted to enter said opening and a locking element attached at one end to said sleeve and adapted to engage and be maintained in connection with said wings by said tongue.

1,531,223. HEATING FURNACE. ARTHUR H. ROBINSON, Lakewood, Ohio. Filed Mar. 18, 1924. Serial No. 699,984. 9 Claims. (Cl. 126—116.)



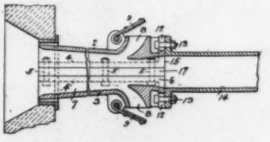
1. In a gas heating furnace, superposed annular firepot and radiator drum sections, including section coupling and intermediate baffle ring members diverting the products of combustion in semi-circular paths therein.

1,530,914. ELECTRIC GAS IGNITER. JAMES H RODEN, Toronto, Ontario, Canada. Filed Sept. 8, 1923. Serial No. 661,691. 16 Claims. (Cl. 219—32.)



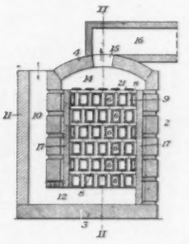
1. An electric gas igniter including an igniting element, a divided casing adapted to carry the igniting element between the parts thereof and shaped to form a receptacle and a switch socket, the latter being separate from the receptacle, the division of the casing being through the socket and the receptacle; and a switch connected in a supply circuit for opening and closing said circuit, the switch being carried in the said socket.

1,531,840. GAS BURNER. GRANT D. BRADSHAW, Beaver, Pa. Filed Sept. 8, 1921. Serial No. 499,282. 8 Claims. (Cl. 158—118.)



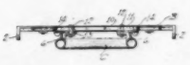
8. A gas burner of the venturi type comprising a mixing chamber having inlets leading to a point adjacent the region of maximum depression therein, said chamber being divided longitudinally to form separable sections, means for detachably securing said sections together, each of said sections having projecting flanges for the reception of said securing means, and spacing means detachably secured in position between said flanges.

1,531,400. HEAT EXCHANGER. BOYD M. JOHNSON, Metuchen, N. J., assignor to The Carborundum Company, Niagara Falls, N. Y., a Corporation of Pennsylvania. Filed Feb. 21, 1924. Serial No. 694,262. 10 Claims. (Cl. 257—241.)



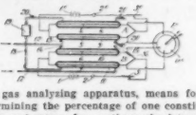
1. A heat exchanger, comprising gas flues formed of hollow tile placed open end to open end, and spacer blocks sealing the joints between the tile of said flues and forming with said tile a portion of the walls of a passage for the medium to be heated, substantially as described.

1,529,850. OVEN BAFFLE PLATE WITH ATTACHED BURNER FOR COMBINATION COAL AND GAS RANGES. OTTO SIEGLER and EUGENE SIEGLER, Belleville, Ill., assignors to Siegler Enamel Range Company, Belleville, Ill., a Corporation of Illinois. Filed Mar. 14, 1924. Serial No. 699,204. 6 Claims. (Cl. 126—36.)



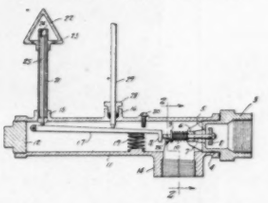
1. A baffle plate for the purpose described, consisting of a frame of rectangular shape in general outline provided with inwardly and outwardly extending projections, a member detachably connected to said inwardly extending projections so as to form the central portion of the plate, and a continuous burner on the underside of said plate connected to said inwardly extending projections and provided with gas orifices.

1,530,202. CONTINUOUSLY-OPERATING GAS-ANALYZING APPARATUS. OLOF RODHE, Stockholm, Sweden, assignor to Svenska Aktiebolaget Mono, Stockholm, Sweden, a Corporation of Sweden. Filed Dec. 15, 1922. Serial No. 607,205. 6 Claims. (Cl. 23—3.)



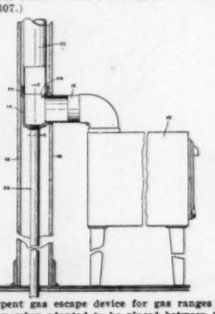
1. In a gas analyzing apparatus, means for continuously determining the percentage of one constituent of a gas mixture and means for continuously determining the percentage of said constituent plus another constituent of said gas mixture.

1,531,868. BURNER CONTROL. WILLIAM ALFORD MERRICK, Los Angeles, Calif. Filed June 16, 1924. Serial No. 720,247. 5 Claims. (Cl. 126—351.)



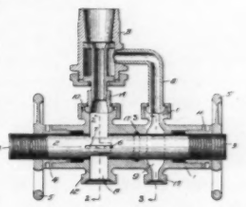
1. A device of the character described adapted to be connected to a tank comprising the combination of a pilot light, a gas valve controlling the flow of gas, a trigger for holding the gas valve open, a thermostatic member actuated by the heat of said pilot light and arranged to trip said trigger upon extinguishment of said pilot light and a thermostatic member actuated by the heat of the tank arranged to trip said trigger upon the tank's temperature reaching a selected maximum value.

1,531,884. SPENT-GAS ESCAPE DEVICE FOR GAS RANGES. GUST SODERLIN, Minneapolis, Minn. Filed Aug. 11, 1924. Serial No. 731,365. 3 Claims. (Cl. 126—307.)



1. A spent gas escape device for gas ranges comprising a T member adapted to be placed between the inner and outer walls of a building, a pipe connecting the gas range with said T member, a gas escape pipe leading from the upper end of said T member, and a drip pipe leading from the lower end of said T member.

1,529,015. CONTROL VALVE FOR GASEOUS-FUEL BURNERS. HARRY H. DODGE, Buffalo, N. Y. Filed Aug. 2, 1923. Serial No. 655,377. 7 Claims. (Cl. 251—76.)

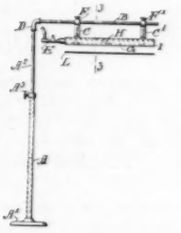


1. A valve for mixed gaseous fuel burners comprising a valve body provided with fuel passages, a valve stem longitudinally movable in said body to open and close said valve, means for operating said stem, and means in said stem for proportionating flow of fuel through the valve in all open positions thereof.

1,531,201. SAFETY DEVICE FOR GAS JETS. FLORENCE LEISER and FRED P. STEWART, Madison, Wis. Filed Oct. 12, 1923. Serial No. 668,174. 2 Claims. (Cl. 251—166.)

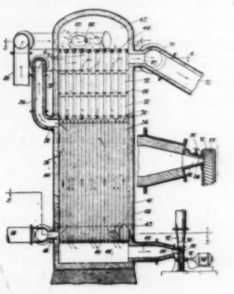
1. The combination with a gas range having right angularly disposed horizontally swinging valve handles, of means mounted upon the range for engagement by the handles, said means being formed from a single length of resilient material and comprising a shank, spring arms carried at one end of the shank, a coil connecting the arms at one end, oppositely disposed intermediate off set portions for said arms, outwardly flared extremities at the opposite free ends of the arms, a clamp strap having its opposite ends engaged with the shank and means carried by the shank for clamping said ends in position.

1,530,932. GAS-HEATING DEVICE FOR PRINTING PRESSES. CHARLES H. COCHRANE New York, N. Y. Filed June 20, 1923. Serial No. 646,553. 18 Claims. (Cl. 34—18.)



2. A portable gas heater adjustably mounted with reference to a printing press, in combination with a baffle plate or rectangular reflector for throwing heat on freshly printed sheets located or passing below, and an automatic cut-off for the gas supply.

1,531,648. METHOD AND APPARATUS FOR HEATING AIR FOR BLAST FURNACES. WALDEMAR DYRSSEN, Tarrytown, N. Y. Filed Nov. 20, 1922. Serial No. 602,304. 13 Claims. (Cl. 263—19.)



1. The method of heating the air blast for blast furnaces which consists in simultaneously passing the air blast and combustible gas or fuel in separate streams through a heating apparatus and compressing the air blast and the combustible gas or fuel and burning said fuel in said heating apparatus under substantially the same pressure as the blast air to be heated in said heating apparatus.

6. An apparatus of the class described having a combustion chamber, means for supplying blast furnace gas under pressure to said combustion chamber, means for passing the products of combustion under pressure from said chamber through the apparatus in one direction, and means for passing an air blast at substantially the same pressure as the products of combustion through said apparatus in the opposite direction so as to heat said air blast.

20,000,000 CUBIC FEET CAPACITY FOR PLANT AT VENTURA

Six new absortion towers recently added to the two towers already operated in the Ventura field by the Pacific Gasoline Company of Los Angeles have increased the daily capacity of the company's plant to 20,000,000 cubic feet. The gas-handling capacity of the plant has been more than trebled since January 1, 1925. In addition to the new towers, another heat exchanger and new still equipment have been installed. The plant is in charge of H. C. Hendricks.

A second absorption plant is soon to be erected on the Associated Oil Company's Lloyd Lease at Ventura by the Pacific Gasoline Company. This new plant will be located about one-half mile northeast of the present plant and will be designed to handle about 12 million cu. ft. of gas daily. It will be a four unit, oil obsorption type plant and when completed, will enable the company to treat all Lloyd Lease gas which is now being produced and which will likely be developed in the near future. When this plant is finished the Pacific Gasoline Company will have 23 natural gasoline plants in actual operation throughout Kern, Orange, Los Angeles and Ventura counties.

The P. C. G. A. Convention is of all-western importance. August 17-20—Portland, Ore.

The American Petroleum Institute can now be reached at 250 Park Avenue, New York, N. Y., in the Postum Building. The change of location was made April 17.

WESTERN GAS *is Due to Become "All-Western"*

IF present indications are to be trusted, we may safely state that WESTERN GAS, in circulation at least, is well on the road to becoming a highly cosmopolitan journal.

Almost two months in advance of publication the office mail contained our first subscription, coming from George Wehrle, superintendent of the gas department of the Public Service Company of Colorado, Denver.

Already every one of the eleven Western States is well represented on our paid-up subscription list, with additions coming in daiiy. Thus far our westernmost readers are located in Honolulu, T. H. Our mailing files also call for copies to various points in Canada and some in far south Panama—so again we say that WESTERN GAS will be, in fact already is, cosmopolitan in scope.

And that is as it should be, for wherever gas is produced or distributed, or treated for the extraction of natural gasoline, and wherever gas appliances are retailed and used in this western territory—that is the field of WESTERN GAS. Building up a paid subscription list in advance of publication is perhaps a trifle unusual, but we credit it to the fact that a journal of the gas industry of the west has long been needed, and to the fact that this need is recognized by leaders of the industry everywhere.

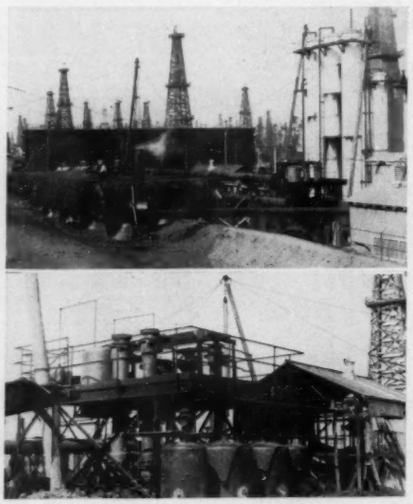
Charcoal Process Is Introduced in the West

(Continued from Page 19)

the element. Expressed in terms of yields, the charcoal plant extracted about 0.245 G. P. M. from the gas treated, as compared with test values ranging from 0.14 to 0.22 G. P. M. (averaging about 0.20 G. P. M.) The properties of the gasoline produced were approximately as follows:

Gravity .....90.0° A. P. I
Distillation Loss 18%
Vapor Tension at 100° F. 17 lbs./sq. in.
(No correction for temperature taken)
End Point .....245° F.
Color .....25 (plus)

The properties of the "run-down line" gasoline, which constituted three-fourths of the total production, were approximately as follows:



Upper—Charcoal plant at Signal Hill during construction. Lower—Condensers in course of assembly at Dominguez Charcoat plant

Gravity .....88.5° A. P. I.
Distillation Loss 18%
Vapor Tension at 100° F. 13.5 lbs./sq. in.
(No correction for temperature taken)
End Point .....250° F.
Color .....25 (plus)

Advantages Claimed for Process

Advocates of the charcoal process list the following as its advantages:

1. Greater yields of gasoline of equivalent properties.
2. Production of a very stable gasoline.
3. A wide range of flexibility.
4. Low operating costs.
5. Reduction of fire hazards.
6. Absence of end point and color troubles.
8. Simplicity of operation.
9. Pressure does not affect efficiency.
10. Portability.

Two questions usually present themselves regarding the charcoal process. Charcoal is the most expensive single item in the plant. How long does it last? What is the effect of entrained oil on the charcoal? It has been found that scrubbers generously designed have adequately protected charcoal plants from any possible harmful effects of mineral seal oil which might otherwise have reached it. As for the deterioration of charcoal it can be said that the same charcoal plant, which is now four years old, is using the same charcoal with which it started and is functioning as efficiently as at any time during its continuous four-year period.

SPECIAL RATE INDUCEMENT OFFERED TO "ALL-GAS" USERS OF TACOMA

TACOMA householders who use nothing but gas for all domestic uses, including heating, cooking and water-heating are promised a saving of 10 to 25 per cent in gas bills, according to a statement by Vice-President D. J. Young of the Tacoma Gas and Fuel Company.

The new rate is optional with the user and will not be available to those using coal, wood, oil or electricity for any of the purposes named above.

GAS FROM TEAPOT WELLS, WYO. CONTRACTED FOR

The New York Oil Company of Casper, Wyo., has contracted with the Mammoth Oil Company for 5,000,000 cubic feet of gas daily from Teapot wells at a rate of 6 cents a 1,000 cubic feet. The New York Oil Company will erect a gasoline absorption plant to cost approximately $150,000. When the plant is completed, the Central Pipe Line will be converted to a gas carrier.

GAS CONSUMPTION INCREASE IN SACRAMENTO

Sacramento, California, with adjacent territory, is a gas-using section of considerable importance, according to E. W. Florence, division manager of the Pacific Gas and Electric Company for the Sacramento region. Sales in his company increased 18.6% in 1924, a decidedly faster increase than the gain of 6.3% over 1923 in number of consumers. This represents the highest consumption per consumer of any section in the Pacific Gas and Electric Company's system.

The Sacramento gas works of the Pacific Gas and Electric Company are to be expanded in 1925 with the installation of a new generator, having a daily output of 3,500,000 cu. ft. Two new boilers, of 250 H. P. and a 175,000 cu. ft. per hour compressor are also to be installed in the Sacramento gas works. The expenditures contemplated this year for the Sacramento territory will aggregate about $500,000.

Compare notes with fellow-workers in the gas industry at the Portland Convention of the P. C. G. A.—August 17-20.

The California Natural Gasoline Outlook *for* 1925

(Continued from Page 17)

at over 500,000 gallons per day, dropping during the summer to 470,000 and returning to flatten out at its starting value. Grounds for predicting that the curves are "flattening out" have been obtained only by carrying them as far as possible into 1925. The sag is caused in part by a dropping off in developed fields in advance of new drilling, but also in considerable measure by the failure of some small operators, and readjustment of gas deliveries.

2—For the northern fields, the daily average gas production shows a steady, sure increase from 120 million to 140 million cubic feet per day. But note that the gasoline production increases from 130,000 to 165,000 gallons. And the curves diverge.

3—The resulting curves plotted for the whole State of California, since the results shown by the southern fields exert a major influence, are similar in appearance to those of the latter, *except* that the daily average gasoline production starts 1924 at 690,000 gallons, sags, and rises to about 710,000 gallons, which is above its starting value. As we have seen, this increase was caused by the San Joaquin Valley.

As to plants, we might go into a lot of detail about changes throughout the past year and enumerate plants idle and under construction, but while that would be interesting to some, it is of small importance to our subject. Let us merely state that the plants in the southern fields ern fields "increased in number from 90 to 93, in the northern fields from 35 to 43, and therefore, in the entire state from 125 to 136. Many subordinate changes have occurred, particularly in the south. Plants have been discontinued, torn down, sold, or moved from one locality to another. But this is noted merely in passing. The number of operating plants was slightly larger by the end of the year.

The number of producing wells increased in the south (this increase being net) from 3400 in January, 1924, to 4000 in January, 1925; in the north from 6400 to 7300; and that makes the increase for the State from 9800 to 11,300 producing wells.

1925 Curve Should be Flat

With this data before us, we can now proceed with the predictions that may be made for 1925. In connection with the southern fields, we noted a flattening out of the gasoline production curve. It is believed that this will be the characteristic condition for the future. We might point to several possible sources of increased production, such as Ventura's deep sand, Ocean Park, Athens extensions, Dominguez, or Seal Beach, and forecast an upward tendency in the gasoline production curve for the southern fields. We will not do this, but venture the statement that enough increase will come in new areas to offset the decline which can naturally be expected in the present producing areas. Therefore, the gasoline curve will flatten out. We believe that the production of natural gasoline in the southern fields will be around 540,000 gallons daily during 1925.

In the northern fields, one might forecast a peak to be reached during the coming eight months. It has been thought many times to be not far off, and this by highly trained men. But new areas continue to be uncovered, particularly in Kern County, which has startled the most optimistic within the last year by its discovery wells and the stability of its pools. However, we venture to predict that the natural gasoline production in the north will not drop during 1925 below that of the present, or 170,000 gallons daily.

700,000 Gallons—1925 Production

For the entire State, then, we may conclude a stability of conditions for 1925 which will show no similarity to that characterizing 1924. In other words, the curves will somewhat resemble those before us for the northern fields. Remember the figure 700,000 gallons per day; it closely represents the natural gasoline expected of California for 1925.

Turning attention briefly to other phases of our industry in California: As in other places, it is fast reaching the end of the experimental stage and is taking its place as an important department of the petroleum industry. Economy and plant efficiency have become keynotes of operation.

The day of operating on well pressure is rapidly passing, and plants are provided with compressors in most localities. The practice of drawing vacuum on the wells has not yet come to California. This is being done in a few small areas, but the general thing is a maintenance of slight pressures at wells, using regulators of various types. The reason for this is that the producing sands are unusually soft in many localities, but it is exaggerated by the unexplained awe which many field men have for a vacuum and by their failure to appreciate the fact that most of the gasoline which would be drawn into the gas by this practice is lost into the air from the oil under present methods.

The short-lived character of some fields in the Los Angeles basin has stimulated the invention and use of the portable plant. There are now many of these in use; the design of some of them is very ingenious. Only a small portion of the indicated production comes from them, however, and they do not as yet occupy a place of particular importance.

Marketing Factors More Stable

Another item which should be at least touched upon is the marketing feature of the industry. Generally speaking, the conditions affecting sales are becoming increasingly steady. About 25% of the natural gasoline production was exported in blend in 1924, as against about 14% in 1923. As to price, we have not much to point to for indication. Independent operators of small absorption plants and poorly operated refineries, blending and marketing bootleg gasoline, have had a tendency at intervals to affect an otherwise stable price. And suddenly shifts by the larger companies indicate possibly a difference in policy that has not been quite straightened out.

As regards leasing practice, there does not seem to be a tendency to change from the practice of paying a royalty based on plant production or sales. In cases where gas from many lessors is commingled, the actual production is usually pro-rated on the basis of tested gasoline content and amount of gas metered. The conservatism of this method of paying royalties is greatly offset, however, by the amounts of royalties paid. The fact that money has been so easy to get from the public has enabled many unqualified gasoline plant operators to build plants, and often with an insufficient supply of gas. This has required them to compete for gas far beyond the limits of conservatism and royalties have been paid as high as sixty per cent. The inevitable result of this practice is the failure of many of these small companies and it is likely that the number of plants for sale will continue to be large. Fortunately, many of the more experienced oil operators are now becoming more concerned with the reputation and stability of the gasoline operator who proposes to treat their gas than they are to secure an unreasonable royalty. However, it is unlikely that California operators will be able to secure contracts on royalties as low as those enjoyed by operators in the Mid-Continent.

The same conditions which explain this rash scramble after gas have a tendency to retard the co-operation of the operators, such as has been gained here in the Mid-Continent under the good offices of this Association. Nevertheless, we may characterize the natural gasoline industry in California and its prospect for 1925 by one word—*stability*.

Growing *in* Advance *of the* Growing West

(Continued from Page 13)

1478 miles in the network of the Southern Counties' distribution lines. The number of the company's services now adds to 100,184 (Jan. 1, 1925), a 12,272 increase over 1923.

Final completion in September, 1924, of the 50-mile tie-in between the San Jose and San Francisco generating plants of the Pacific Gas and Electric Company, a project which has been gradually carried forward from Palo Alto since November, 1922.

A gain of 4,183 new gas customers by the San Diego Consolidated Gas and Electric Company, bringing its list of services to 38,950.

A net increase of 2,473 consumers in the natural gas system of the Northwestern Utilities Limited, Edmonton, Alberta, Canada.

A marked growth in the gas department of the city of Long Beach. During the year just closed, the city laid 28 miles of transmission mains, 54 miles of distribution mains, installed 5,534 new services and 6,956 new active meters. The total consumption for Long Beach during the past year was 7,776,487,000 cubic feet. A ten unit compressor station has recently been completed which will deliver 25,000,000 cubic feet daily to the city from Athens, Rosecrans and Dominguez oil fields. All gas supplied is dry natural gas, a by-product of the local gasoline plants.

Other facts and figures in the same field as the foregoing material could easily be marshalled, but sufficient have been offered to show the forward trend that has characterized the western gas industry in the past year. And the following brief glance into the future plans of a few of our western gas utilities will demonstrate that 1924 was not a "bumper" year, but was only a step in a program of progressive development.

A Glance to the Future

Here are some of the plans and projects that will soon be written into the western gas record:

Pacific Gas and Electric Co.

Estimating that some 25,000 new customers will be served this year by its gas department the Pacific Gas and Electric Company contemplates a 600 mile addition to its lines and the addition of 20,000,000 cu. ft. to its daily generating capacity. Approximately $5,500,000 is called for in 1925 for betterments and additions to the company's gas department. Twelve acres of land adjoining the company's Potrero plant, San Francisco, have been acquired for future expansion. Looking to the future is a prime essential of gas utility service.

Southern Counties Gas Co.

A budget of $2,533,000 for 1925, not including the $1,500,000 Ventura transmission line described elsewhere in this issue will be divided as follows by the Southern Counties Gas Company: $900,000 to distribution mains, covering an estimated increase of 12,000 new customers; $380,000 to build new holders, including one at Sierra Madre and one at Newport Beach. The holder to be constructed at Sierra Madre at a cost of $35,000 is to be of 200,000 cu. ft. capacity, its dimensions being 40 ft. (width) by 80 ft. (height). The Newport Beach holder will be of 300,000 cu. ft. capacity and will cost about $45,000. Its dimensions are 45 ft. by 100 ft. Both holders are of the hydraulic piston type. The 1925 budget also calls for $110,000 to lay transmission lines, other than the Ventura line. The transmission lines laid in 1925, with the Ventura project included, will reach a grand total of about 100 miles.

British Columbia Company

Extension of mains contemplated for this year by the gas department of the British Columbia Electric Railway Company, Ltd., Vancouver, call for an expenditure of approximately $100,000.00.

Portland Gas and Coke Co.

Spending $1,671,855 for expansion projects the Portland Gas and Coke Company will bring its storage capacity up to 11,256,000 cu. ft., with the construction of a new 3,000,000 cu. ft. holder, and will add 4,000,000 cu. ft. to its daily generating capacity by erecting two generators. This will give a total generating capacity of 24,000,000 cu. ft. a day to the Portland Company, a 50% increase over the 1923 capacity.

Public Service Co., Colo.

Basing his opinion in part upon the building activity in Denver, Mr. Geo. Wehrle anticipates another record year for the Public Service Company of Colorado's gas department, of which he is superintendent. The department has a $500,000 budget to devote to construction this year, and some of the items covered are: a 650,000 cu. ft. Connersville Rotary Displacement meter, a 200,000 cu. ft. meter of the same type, a 300 H. P. electrically-driven water gas blower, a 600 H. P. boiler, in addition to a number of large feeder mains and supply mains.

Coast Valleys Co.

The Coast Valleys Gas and Electric Co. plans to install a new nine-foot straight shot gas generator, two additional scrubbers and one purifier, and to erect a 200,000 cu. ft. gas holder on property already acquired at Salinas, estimating the cost of improvements in that district at $103,000. A new oil scrubber and a 30,000 cu. ft. per hour compressor will be added to the Monterey plant. With the cost of some replacements in distribution system the Monterey expenditures will amount to about $42,000. The sum of $30,000 is expected to be used in extending service to new customers.

Southern California Gas Co.

The expansion and betterment budget adopted by the Southern California Gas Company for 1925 sets aside $2,975,000, to be appropriated about as follows: $2,150,000 to distribution mains and accessories, $485,000 to general reinforcement and changes in pipe lines, $250,000 to additions to production department, $30,000 to construction of branch offices, $60,000 to miscellaneous items.

L. A. Gas and Electric Corp.

In its production department the Los Angeles Gas and Electric Corporation will spend approximately $1,500,000, and in its gas distribution system about $3,500,000, plus a general betterment appropriation of $725,000. Some of the principal items covered in the above budgets are: a 15,000,000 cu. ft. waterless gas holder of new design, one steam-driven and one electrically-driven gas compressor, with auxiliary apparatus. Each of the compressors will have a per hour capacity of a million cu. ft. The Corporation also plans to lay about 234 miles of commercial gas mains, and to install some 25,000 new services, 40,000 meters and 35,000 regulators.

Sacramento Gas Co.

The Sacramento Gas Company announces that its low pressure system will be supplemented by high pressure by the middle of June. From Winslow, Arizona, comes word of a $35,000 bond issue for a city gas plant, while the city gas plant of Mesa, Arizona, is undergoing a $68,000 improvement.

No attempt has been made to make an exhaustive survey of the 1924 and 1925 developments in the western gas field. Such a survey would necessarily fill volumes, rather than pages. But scattering and incomplete as the foregoing presentation is, a tendency of the industry has been so broadly hinted at as to be inescapable. Western gas development has more than paralleled general growth in industry and population, attesting an increasing appreciation of the merits of gas. The momentum set up in 1924 expansion projects is showing acceleration in 1925—and if one were to examine the trend of gas expansion in the last twenty years of western progress the same story could be read—never a backward step, but a continual and rapid progression of expanding service.

The Scope of Our Western Industry

(Continued from Page 11)

very strength of gas—its simplicity and safety of control—has proven a weakness, as it has enabled many a short-sighted manufacturer to build appliances for price rather than utility. The marketer is usually also a marketer of other wares, and because we have neglected him he has not always handled our line to the best advantage. The Association, being but a reflection of its members, has not always functioned completely, as its forum has often been so confused that action was impossible.

Knowledge and Vision Are Here

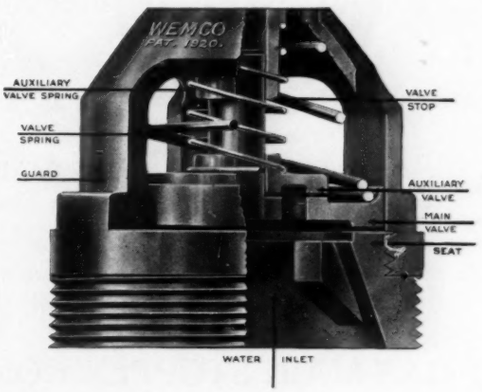
Happily the period of confusion is past. We now realize that to best conserve our diminishing natural fuel supply we must pre-gasify it and extract each useful constituent. We know that it is folly to pollute our atmosphere and blacken our cities with smoke. We know that gas cannot be surpassed as a fuel and that the future of our industry has no limitations. This is the vision—we know these things and all else is detail and co-operative effort.

Co-operation has become a hackneyed word, but it is the word which best expresses at once the idealism and selfishness which lies back of all associations. Industry and business have become too complicated for an individual to successfully stand alone. Self-preservation has compelled each industrial and business group to organize, and in joining the organization the motive of the individual is purely selfish; he wants to gain the benefit of his competitors' knowledge and he wants his competitors' help in bringing about things which will be mutually beneficial. While the primary motive leading to organization is selfishness, the idealism which exists in human nature immediately manifests itself and the association, in addition to being a business aid, becomes a force for the improvement of the ethics of the business which it represents. The degree to which results are attained is in proportion to the association-mindedness of the members.

The gas industry has not been sufficiently association-minded and this has retarded progress. The national association has been through several re-organizations, but now in the American Gas Association, there is a closely knit body giving extremely practical aid to its members. The Pacific Coast Gas Association is one of the oldest of the district associations and because of the geographical isolation of its territory it is perhaps the strongest and most independent. Its history is replete with accomplishments that have received nation-wide recognition and its leaders have always been

"WEMCO" Double Pump Valve

FOR SIMPLEX and DUPLEX PUMPS



The "WEMCO" Double Pump Valve is superior to any valve on the market for the following reasons:

First—No studs or parts to break in operation.

Second—All ribs of seat removed, thereby giving full area of opening and greatly reducing friction.

Third—Auxiliary valve acts as a cushion and prevents hammering.

Fourth—Pump can be slowed down from 10 to 40% and still give same volume thereby greatly reducing wear and tear on pump and reducing cost of operation.

Fifth—From 10 to 30% more overall efficiency guaranteed.

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Free Engineering Service on all Pressure Conditions
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men of national prominence. The Pacific Coast Gas Association, as are nearly all of the district associations, is affiliated with the American Gas Association, and a nation-wide effort is being made to weld together more firmly the three links of the gas industry chain.

It is to be hoped that this effort will continue and strengthen. There is now under consideration a plan whereby the affiliation between the Pacific Coast and American Gas Associations will be extended to bring to Pacific Coast members all of the advantages of the research and experience of the eastern industry, and in return to give to the national body the whole-hearted support of the West. This arrangement, if it can be brought about, will reduce the cost of co-operative activities and will undoubtedly increase the effectiveness of both Associations.

Association's Field of Service

The effectiveness of its associations is just now a necessity to the well-being of all three links of the gas industry chain. No single organization is strong enough to bear the burden of finding all the facts which must be used to fight competition; there is no other agency to clear from our house the motley assemblage of cheap and defective gas appliances with which the public has been deluged; and the Association is an ideal instrument for educating the personnel of the industry and for carrying our messages to the public.

The Pacific Coast especially is aware of the importance of the retail dealer and the necessity of making him association-minded so that he will learn how to best handle our product. A manual on gas appliances is now being prepared by the Pacific Coast Gas Association, and it is written with the intention of educating the merchant. And as we know there are merchants who will refuse to be educated, the Association is working up specifications for a municipal ordinance and is ready to plead its adoption in all Pacific Coast cities. Those who will not learn the rule of safety, will at least be made to obey them. Both the manual and the ordinance will tie in with the idea that the gas industry must certify to the safety of gas appliances to the public.

The sun has risen on the gas era. There are clouds here and there, but faith and co-operative effort will dissolve and dissipate them.

Portland hotel reservations will be scarce pickin's in August. Make yours for the 17-20 now.

E. S. HAYMAN MARRIED

E. S. Hayman, one of the members of the new business department of the Southern California Gas Company, was married on Sunday, April 19.

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ADVERTISERS INDEX

Bartlett Hayward Co. 1
C. B. Babcock Co. ..... *Third Cover*
Beacon Light Co. 25
C. F. Braun & Co. 3

Chaplin-Fulton Mfg. Co. 8
Cleveland Gas Burner Co. 27

General Gas Light Co. 20

Lattimer-Stevens Co. ..... *Fourth Cover*

Merco Nordstrom Valve Co. 8
W. E. Mushet Co. 37

Oliver Continuous Filter Co. 10

Pacific Gas Radiator Co. 29
Pacific Gas & Electric Co. ..... *Second Cover*
Pacific Meter Works 7
Pittsburgh Meter Co. 40

Reliance Manufacturing Co. 39
Reynolds Gas Regulator Co. 38
Geo. D. Roper Corp. 21

Safety Gas Main Stopper Co. 38
S. B. Sexton Stove Co. 31
Southern Counties Gas Co. 6
Sprague Meter Company 39
Stockton Fire Brick Co. 9

United States Cast Iron Pipe and Foundry Co. 4

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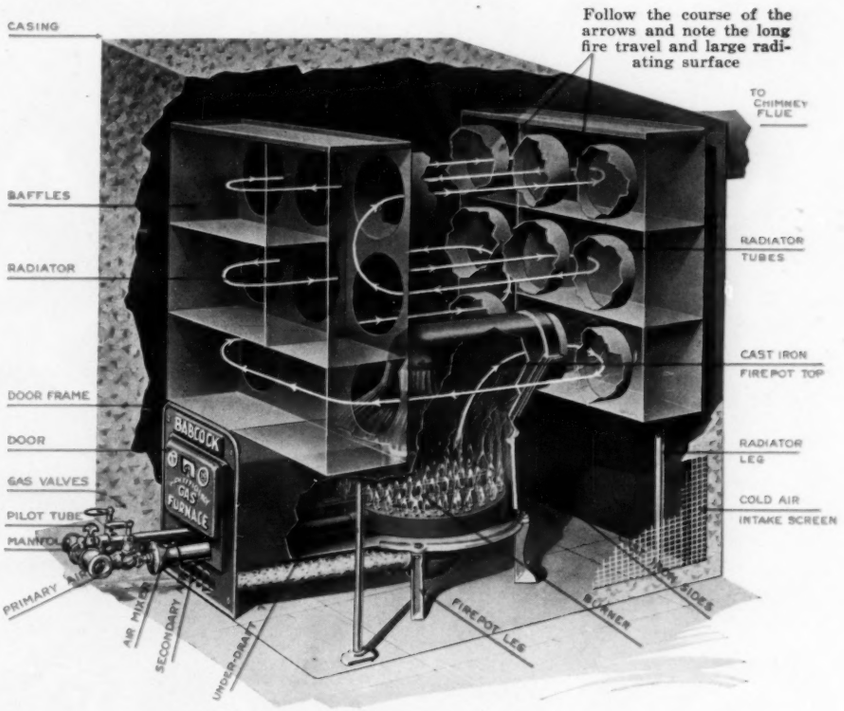

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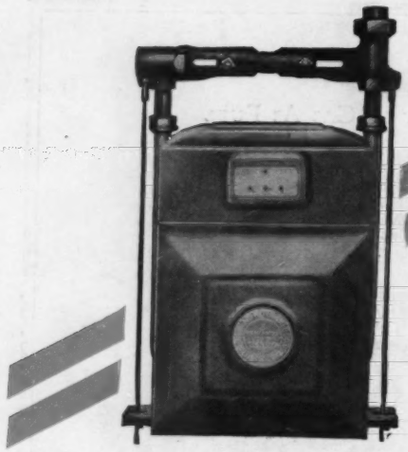

Lattimer - Stevens No. 2 standard overlapping bar type meter connection, with meter shelf. This connection also furnished with stop cock built into inlet end.

Protection Costs Less Than Repairs

COSTLY repairs due to broken meter columns may be practically eliminated by using Lattimer-Stevens Meter Connections and Shelves.

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The weight of the meter is carried by the Lattimer-Stevens patented shelf. This shelf is fastened on to the connection and holds the meter tight up against it at all times.

Two great sources of loss—meter column strain and leaks from washer shrinkage—are greatly reduced.

Lattimer-Stevens Connections are furnished in either tie-in or overlapping bar types, with or without built-in stop cocks and in styles to meet every meter setting requirement. All connections are equipped to take the L-S patented shelf.

Samples, catalog and prices will be sent upon request.

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